AMERICAN HOSPITAL ASSOCIATION
DECEMBER 2012

TRENDWATCH

Are Medicare Patients Getting Sicker?

Today, Medicare covers more than 48 million people, and that number is growing rapidly—baby boomers are reaching the eligibility age of 65 at the rate of 10,000 a day.[1] Medicare patients exhibit a growing prevalence of chronic conditions and risk factors for these conditions, such as obesity. This in turn is leading to a rise in Medicare beneficiaries' use of health care services and has implications for resource use and payment policy.

In fiscal year (FY) 2008, the Centers for Medicare & Medicaid Services (CMS) instituted a new patient classification system to better measure the severity of illness of Medicare patients admitted to hospitals to improve the accuracy of payment for this care. Seeking to ensure that these changes alone did not lead Medicare to pay more for the same services and patients than it would have paid before, CMS made a downward adjustment to hospitals' payment rates. Questions have been raised as to whether that adjustment appropriately separates the effect of changes in how hospitals report severity from actual changes in the complexity and severity of illness of Medicare patients.[2]

This *TrendWatch* explores whether Medicare patients are getting sicker by examining trends in the health of the Medicare population, the link between sicker patients and increased resource use, and the evidence of increasing intensity of care in hospital settings.

Medicare Severity-adjusted Diagnosis Related Groups (MS-DRGs) Coding Adjustment

In FY 2008, CMS introduced a new patient classification system for determining payment for hospital inpatient admissions. The system, known as Medicare Severity-adjusted Diagnostic Related Groups (MS-DRGs), was designed to better measure differences in severity of illness across patients who otherwise had similar diagnoses or were undergoing the same procedure. The system aimed to improve payment accuracy by better accounting for the impact of complications and comorbidities on the resources required for patient care.[3]

The new system required hospitals to code patients' complications and comorbidities more completely. When measured patient severity (the "case mix index") rose during the first year of MS-DRG implementation, CMS needed to separate the effects of these coding changes from real changes in patient severity. Instead, CMS elected to place a limit on case mix change equal to what case mix change would have been under the old system.

During the initial years of MS-DRG implementation, using the standard of what case mix would have been under the old system, CMS asserted that real case mix change was negative—Medicare inpatients were getting less sick and less complex over time. Meanwhile, case mix rose under the new system. To account for this difference in case mix, CMS applied a series of payment adjustments that lowered payment rates.

Researchers have challenged CMS's methodology for calculating the necessary adjustments and have suggested alternative methodologies to isolate the effects of the coding adjustments from real changes in patient severity.[4]

American Hospital Association®

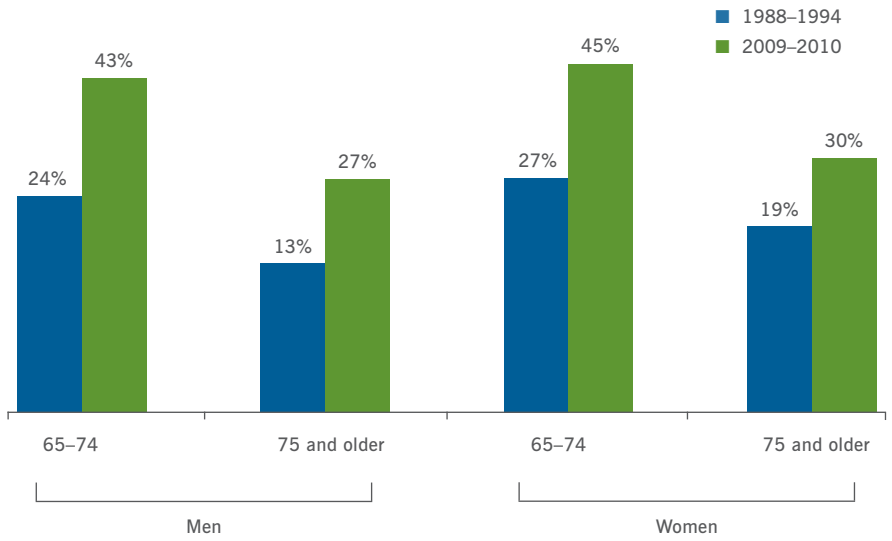
Rates of Obesity and Chronic Disease Are Rising Among Medicare Beneficiaries

Among all Americans, Medicare beneficiaries age 65 and older are most likely to have chronic conditions—defined as diseases lasting three months or longer.[5] About four out of five seniors are affected by a chronic condition, such as heart disease and cancer, hypertension, stroke and diabetes.[6] As the number of Medicare beneficiaries with any chronic disease has grown, so too has the number of beneficiaries with multiple chronic conditions. Research indicates that, in 2008, two-thirds of all Medicare beneficiaries had at least two or more chronic conditions,[7] and this number continues to climb.[8] Because the risk for multiple chronic diseases rises with age, the prevalence of multiple chronic conditions is expected to grow even more as the Medicare population ages.

The rising prevalence of obesity—a major risk factor for heart disease, some cancers, hypertension, stroke and diabetes—also has contributed to the growth in the number of seniors with chronic conditions.[9] The prevalence of obesity among Medicare beneficiaries has doubled since 1987;[10] in 2009–2010, 38 percent of people age 65 and over were obese.[11] At the same time, the rate of diabetes among people age 65 years and older has gone from 18 percent in 2002 to nearly 27 percent in 2010.[12]

More seniors are obese, leading to a host of other chronic health problems.

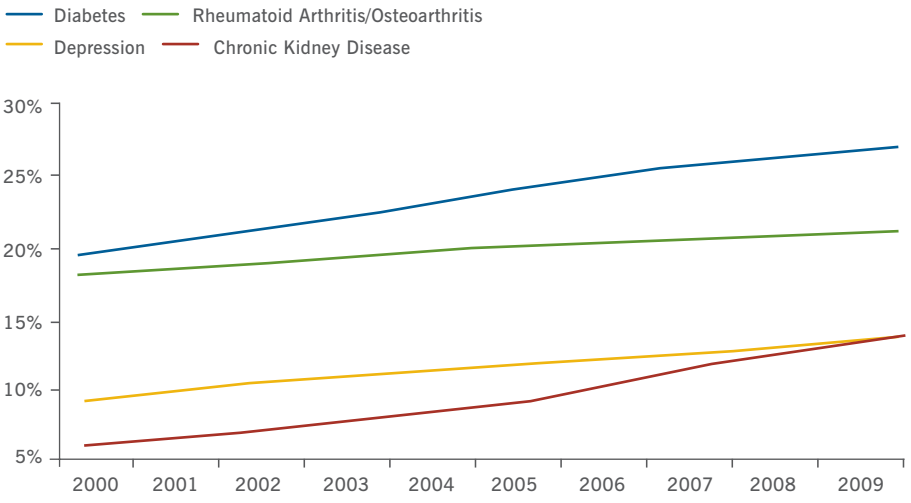
Chart 1: Percentage of Seniors Who Are Obese, 1988–1994 and 2009–2010



Source: National Institutes of Health. (2012). *Older Americans 2012: Key Indicators of Well-being.*

Chronic disease rates are rising in the Medicare population.

Chart 2: Rates of Chronic Conditions Among Medicare Beneficiaries,* 2000–2009



* Includes random 5% sample of Medicare beneficiaries.
Source: CMS Chronic Condition Data Warehouse Medicare 5% Sample. Medicare Beneficiary Prevalence for Chronic Conditions for 2000 Through 2009. http://www.ccwdata.org/cs/groups/public/documents/document/wls_ucm1-000774.pdf.

Complexity of Caring for End-stage Renal Disease (ESRD) Patients

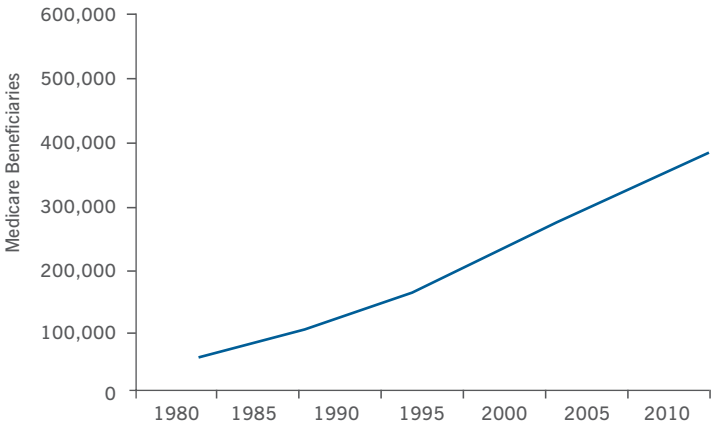
Medicare provides health insurance coverage to all Americans diagnosed with end-stage renal disease (ESRD), or kidney failure. Expenditures for ESRD beneficiaries represent a disproportionate share of Medicare spending, demonstrating the high costs associated with the disease. Individuals with ESRD require intensive treatment, either dialysis or a kidney transplant, both of which demand continued care. For example, most ESRD patients undergo hemodialysis at a dialysis facility three times a week.[13]

Care following a kidney transplant includes a three- to five-day hospital stay and frequent physician visits in the months and years following surgery.[14] Moreover, ESRD patients have a high propensity for hospital admission for other critical illnesses and require more intensive care. One study found that ESRD patients require admission to the intensive care unit (ICU) 25 times more frequently than patients without ESRD.[15]

These intensive treatments result in high spending. In 2008, Medicare spent an average of $65,256 per ESRD beneficiary, compared with $9,676 per beneficiary age 65 and older without ESRD.[16] In the hospital setting, the average case mix for ESRD patients is more than 30 percent higher than that of non-ESRD patients.[17] ESRD prevalence is growing, further contributing to increased severity of illness among Medicare beneficiaries and rising expenditures. Between 1999 and 2009, ESRD prevalence grew by 53 percent.[18]

The occurrence rate of ESRD, one of the highest cost conditions for Medicare, is ballooning.

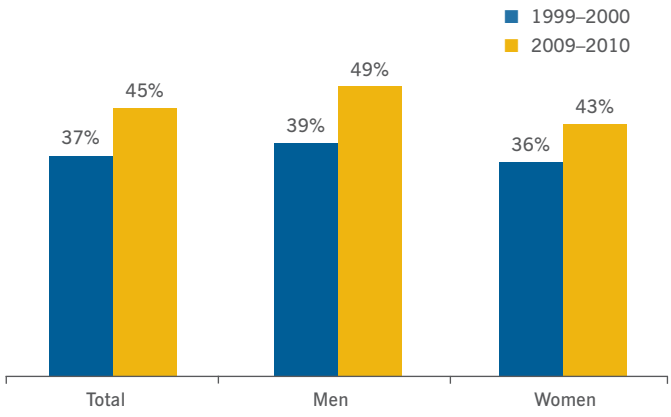
Chart 3: Medicare Beneficiaries with ESRD, 1980–2010



Source: United States Renal Data System. 2012 Reference Tables.

More seniors are living with two or more chronic conditions.

Chart 4: Percentage of Seniors* with Two or More Chronic Conditions, 1999–2000 and 2009–2010



* Seniors are defined as individuals age 65 and older.
Source: Freid, V., et al. (July 2012). *Multiple Chronic Conditions Among Adults Aged 45 and Over: Trends Over the Past 10 Years.*

from the field

"If you put all of our payers together—Medicare, plus the private payers and Medicaid, mortality, risk and severity of disease is up across all DRGs…which means we're seeing sicker patients."[19]

– Charles O'Brien, President of Sanford USD Medical Center, Sioux Falls, SD

Despite These Trends, People Are Living Longer

Even though the population has gotten sicker, life expectancy has risen. This apparent contradiction can be attributed to breakthroughs in medicine and greater use of health care services. In 2009, American life expectancy at birth reached 78.2 years, the longest in our history.[20] Since 2000, life expectancy has increased by 1.8 percent (or approximately 17 months) for the general population.[21] As a result, and in combination with the aging of baby boomers, it is projected that the number of Medicare beneficiaries will more than double over the next 40 years, with a greater percentage of beneficiaries age 85 and older.[22] By 2020, the population over age 85 is projected to reach 6.6 million, up from 5.5 million in 2010.[23]

In addition, the overall risk of mortality in the U.S. dropped by 60 percent from 1935 to 2010.[24] People who would have died of heart disease, kidney disease, cancer or diabetes a generation ago are living longer with a better quality of life as these diseases are now managed effectively through new surgical and medical interventions.[25] For instance, between 2000 and 2008 the age-adjusted death rates for heart disease and cancer decreased by 28 percent and 12 percent, respectively.[26]

Medical and technological advances improve outcomes, but they also often raise costs. For instance, less invasive options for cardiac care, such as cardiac catheterizations, coronary artery bypasses and angioplasties with stents, have emerged over the past few decades. Approximately 70 percent of the improvement in survival among heart attack patients is attributable to these types of technological advances.[27] However, with these gains, average inpatient Medicare spending per heart attack case rose from $10,336 in 1999 to $14,009 in 2006.[28] Medical advances also have led to significant declines in cancer mortality, with imaging and pharmaceutical innovation accounting for more than two-thirds of the decline among cancer patients between 1996 and 2006.[29] The cost of cancer care for an individual age 65 and over can reach more than $100,000 in the initial year following diagnosis (depending on the type of cancer) and can exceed $130,000 in the last year of life.[30]

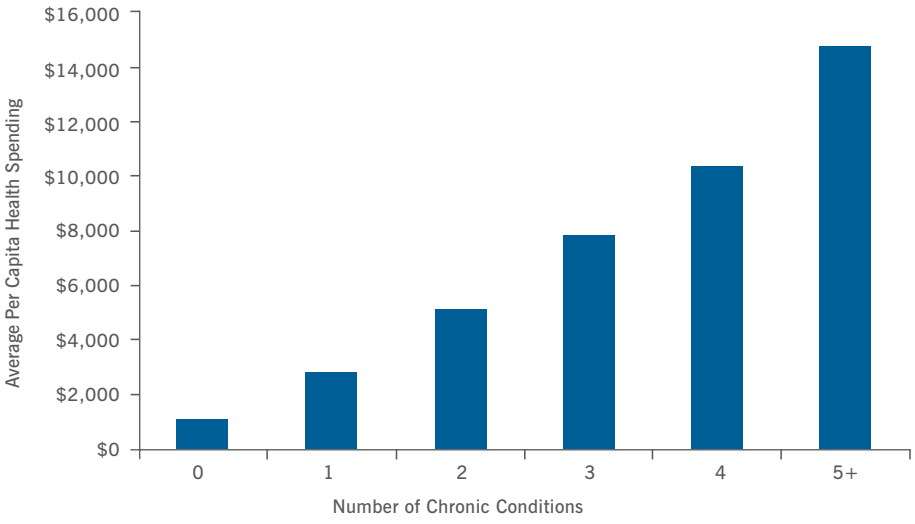
An Older, Sicker Medicare Population Requires More, Higher Intensity Care

The Medicare population is living longer with chronic disease, resulting in an aging patient population that requires more resources. An older, sicker Medicare population uses more health care services, including inpatient and outpatient hospital care. People with chronic disease are more likely to be hospitalized than those without, and the resources required for each care episode are greater.[31,32] This translates into higher spending overall.

In general, overall health care spending for a person with one chronic condition is almost three times greater than spending for someone without any chronic conditions, and spending is about 17 times greater for someone with five or more chronic conditions.[33] The cost of each episode of care also rises with the number of chronic conditions.[34] Age is a factor as well, as

People with multiple chronic conditions use more health care resources.

Chart 5: Average Yearly Per Capita Health Spending for Individuals with Chronic Conditions, 2006



Source: Anderson, G. (2010). *Chronic Care: Making the Case for Ongoing Care*. Johns Hopkins University and the Robert Wood Johnson Foundation.

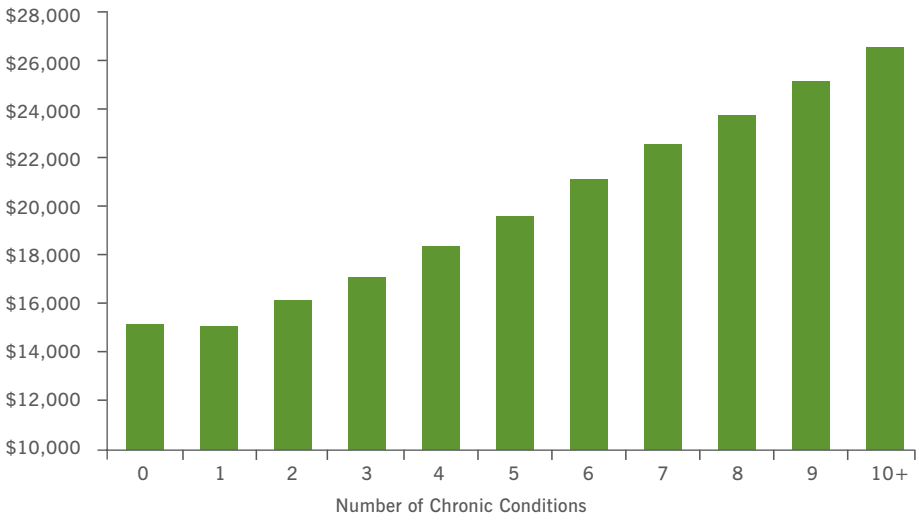
older people have more health problems and, consequently, consume more health care.[35] In 2008, per capita expenditures were $7,626 for beneficiaries age 65 to 74 compared to $13,219 for those 85 and older.[36] In addition, older beneficiaries routinely have more comorbidities, such as certain heart and pulmonary conditions, that hospitals must manage during a patient's stay. For instance, in 2010, nearly 18 percent of Medicare patients age 85 and older with an inpatient hospital stay had a comorbidity of congestive heart failure, compared with roughly 9 percent of patients age 65 to 74.[37]

Higher spending for older patients with chronic conditions—and higher resource use over time as the population has aged and rates of chronic disease have risen—is in part a reflection of increasing complexity and resource intensity for hospital patients. Spending for inpatient hospital care increases with the number of chronic conditions a patient has.[38] About 50 percent of Medicare beneficiaries with stroke or heart failure have five or more other chronic health conditions that need to be managed when they receive care on an inpatient or outpatient basis.[39] As a result, hospital caregivers must ensure the patient remains stable on multiple fronts.

Patients with chronic kidney disease (CKD), for instance, are very complex and require intensive, ongoing treatment. In addition, CKD patients share many risk factors for other conditions—such as old age and obesity—and therefore often suffer from comorbidities like cardiovascular disease and hypertension. These comorbidities can heighten the severity of CKD, requiring that these patients receive more complex care management, and subsequently raising costs.[40]

Costs of each episode of care rise with the number of a beneficiary's chronic conditions.

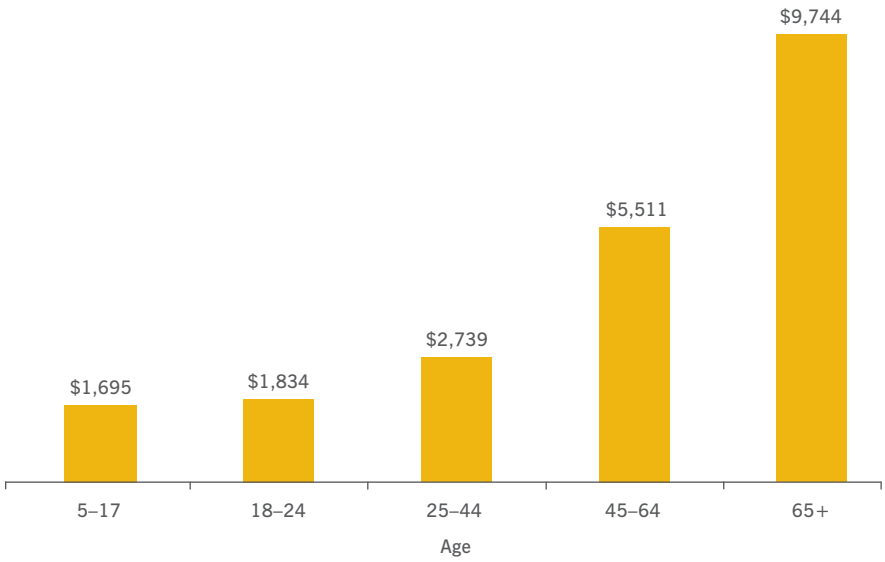
Chart 6: Average Medicare Episode Payment by Number of Chronic Conditions for Major Joint Procedure Without Major Complication* for 30-day, Fixed-length Episodes, 2007–2009



* MS-DRG 470.
Source: Dobson | DaVanzo (October 2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

Overall health care spending rises with age.

Chart 7: Distribution of Average Health Care Spending* Per Person by Age, 2009



*Health care spending includes total payments from all sources (including direct payments from individuals and families, private insurance, Medicare, Medicaid, and miscellaneous other sources) to hospitals, physicians, other providers (including dental care), and pharmacies; health insurance premiums are not included.
Source: Kaiser Family Foundation. (May 2012). *Health Care Costs: A Primer.*

Rising acuity is reflected in the increase in the percentage of Medicare inpatient admissions that included an ICU stay.[41] In addition, Medicare beneficiaries are receiving ICU care for a greater number of days during the last six months of life.[42]

In the outpatient setting, a growing number of Medicare claims are for observation stays.[43] Observation stays require providers to manage sicker patients in the outpatient setting, leaving only the most complex patients in the inpatient setting.

Finally, data show that more individuals age 65 and older are presenting at the emergency department (ED) requiring emergent care. From 2007 to 2009, the proportion of seniors who went to the ED requiring emergent care increased from about 15 percent to more than 17 percent.[44]

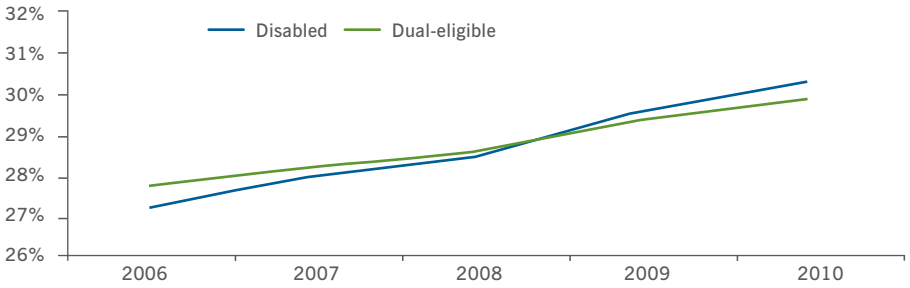
Conclusion

Chronic disease is rising among Medicare patients.

The link between chronic disease and resource use is well established. That's why it is not surprising that the new patient classification system (MS-DRGs)—designed to account for complications and comorbidities and their associated resource use—shows a rise in patient case mix over time relative to the old system. Policymakers should carefully consider the trends of increasing acuity in the Medicare patient population as they seek changes to payment policy.

Medicare patients with complex care needs are making up a greater proportion of inpatient visits.

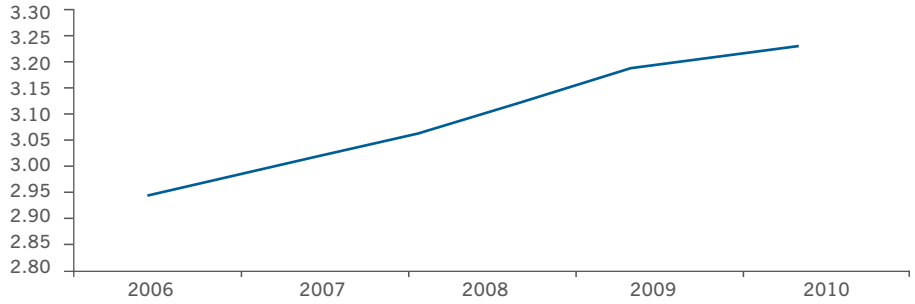
Chart 8: Proportion of Inpatient Visits for Disabled and Dual-eligible* Medicare Beneficiaries,** 2006–2010



*Individuals eligible for both Medicare and Medicaid.
** Based on random 5% sample of Medicare beneficiaries.
Source: Avalere Health analysis of Medicare National Claims History Standard Analytical Files.

All of these trends are contributing to rising acuity levels in the inpatient setting…

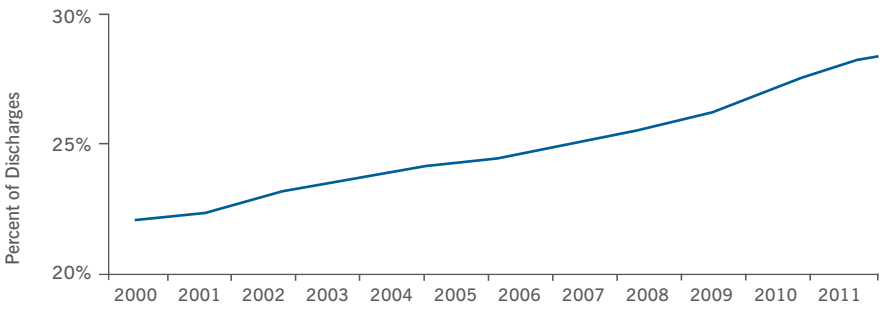
Chart 9: Health Risk Scores* for Admitted Patients, 2006–2010



*Hierarchical Condition Category Scores is a measure used by CMS for risk-adjustment in the Medicare Advantage program.
Source: The Moran Company Analysis of Medicare 5% Standard Analytic Files for 2006–2010

…as evidenced by greater use of costly resources such as intensive care units.

Chart 10: Percent of Medicare Discharges Involving Intensive Care, FY 2000–2011



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TrendWatch, produced by the American Hospital Association, highlights important trends in the hospital and health care field.

TrendWatch — December 2012

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