

Medicare Beneficiaries with Multiple Chronic Conditions

This project found that although diabetes care services decreased and the odds of dying increased among those with multiple chronic conditions as compared to diabetes only, the receipt of these diabetes care services was associated with half the odds of dying and lower costs to Medicare.

Lead Agency:

Centers for Medicare & Medicaid Services (CMS)

Agency Mission:

The mission of CMS is to administer Medicare, Medicaid, and the State Children's Health Insurance Program and to promote quality of care for beneficiaries.

Principal Investigators:

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General Description:

The purpose of Activity #1 of this study was to examine the extent to which elderly Medicare beneficiaries with multiple chronic conditions received recommended care and preventative services and to determine whether each additional condition had an impact on whether the beneficiaries received those services. The following chronic diseases and disease combinations were considered: diabetes; diabetes and depression; diabetes and chronic obstructive pulmonary disease (COPD); and diabetes and depression and COPD. The study outcomes included three diabetes care measures (serum hemoglobin A1c (HbA1c) and lipid (LDL-C) testing, and eye examination) as well as three preventive care measures that are recommended for all elderly beneficiaries (or one gender): influenza immunization, mammography and screening prostate specific antigen (PSA) testing. Rates of screenings and preventative care services were determined and multivariate logistic regression analyses were carried out to examine the effect of additional disease burden on the rate of receipt diabetes care and preventive care services. Baseline age-adjusted rates among Medicare beneficiaries with diabetes were as follows: HbA1c test (72.9%), lipid testing (66.5%), eye examination (50.7%), influenza vaccination (54.7%), mammogram among women (45.4%), and prostate specific antigen (PSA) test among men (42%). Across all measures, rates generally became lower among beneficiaries with diabetes and COPD, and even lower among those with diabetes, COPD and depression, a set of findings that was also supported by the regression analyses. Results were more variable among those with diabetes and depression, but not COPD.

The purpose of Activity #2 of this study was to examine costs of care and likelihood of mortality among elderly Medicare beneficiaries with multiple chronic conditions. The following chronic diseases and disease combinations were considered: diabetes; diabetes and depression; diabetes and chronic obstructive pulmonary disease (COPD); and diabetes and depression and COPD. Multivariate regression analyses were carried out for each disease cohort, as well as all cohorts combined, in order to examine the effect of adding additional disease burden on mortality and costs. The mean per beneficiary cost to Medicare in 2003 varied almost three fold between the cohort with diabetes only (\$9,052) and diabetes, COPD and depression (\$26,707) with intermediate cost burdens of \$14,647 for those with diabetes and depression and \$18,756 for those with diabetes and COPD. A key cost-related finding is that the receipt of diabetes care services was strongly and linearly related to lower costs to Medicare for all four cohorts of beneficiaries. Compared with those diagnosed with diabetes only, there was a 75% greater likelihood of dying within two years among those with diabetes and COPD, and the risk was more than double for those with diabetes, COPD and depression. As the number of diabetes care services increased, a beneficiary's odds of dying decreased. Those who had received all three diabetes care measures (serum hemoglobin A1c (HbA1c) and lipid (LDL-C) testing, and eye examination) slashed their odds of dying in half, compared with those who had received none of these services.

Excellence: What makes this project exceptional?

This project is the first to look at the additional burden of multiple chronic diseases in conjunction with likelihood of receipt and health and cost impact of preventive healthcare services that are recommended for persons with diabetes and other chronic diseases.

Significance: How is this research relevant to older persons, populations and/or an aging society?

This project is relevant to aging populations because it not only focuses on Medicare beneficiaries who are sixty five years of age and older, but also it hones in on issues of particular importance to this group of older Americans. Specifically, it addresses the experience of those suffering multiple chronic conditions as opposed to those with zero to one chronic disease. Sixty five percent of Medicare beneficiaries in this age group suffer two or more chronic conditions, 43 percent have three or more chronic conditions, and 24 percent have four or more chronic conditions.

Effectiveness: What is the impact and/or application of this research to older persons?

This highlights the need for older Americans with one or more chronic disease to receive all the recommended screening and preventive care services. Not only do these reduce the odds of dying by one half, but also they are significantly associated with reduced cost to Medicare.

Innovativeness: Why is this research exciting or newsworthy?

This research is exciting because the screenings have been associated with both reduced mortality and decreased cost to Medicare. This is a win-win for patient care and Medicare cost containment.