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The Health effects of Increased CVD Medication use Varies by CVD Status of Medicare Beneficiaries

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Abstract

**Background/Aims:** Cardiovascular disease (CVD) is the leading cause of death and disability in the United States. The aim of this study was to assess the effect of increased utilization of CVD medications on MI, stroke, and all-cause mortality among different CVD risk subgroups.

**Methods:** We used 1999-2009 Medicare Current Beneficiary Survey data to identify 26,903 non-institutionalized, fee-for-Service Medicare beneficiaries 65 years or older who were users of angiotensin converting enzyme inhibitor (ACE), angiotensin receptor blocker (ARB), other antihypertensive medications, and statin. These beneficiaries contributed a total of 61,741 person-years. For each study drug, we used logistic regression models to estimate the effect of additional prescription fills on MI, stroke, and all-cause mortality; stratified according to presence of CVD and, in those without CVD, level of CVD risk (high versus low).

**Results:** Additional prescription fills of ACE, ARB, other antihypertensives, or statin did not affect MI occurrence among high CVD risk individuals; while in those with CVD, significant effects of ACE and statin were found: OR per 6 additional fills: 0.76 (95% CI= 0.59, 0.98) and 0.74 (CI= 0.60, 0.92) respectively. Additional drug fills did not affect stroke in either subpopulation except fills of other antihypertensives in the CVD subgroup (OR of 6 additional fills: 0.93 (CI= 0.89, 0.98). In both subgroups, an inverse relationship between increased use of the study drugs and all-cause mortality was generally found although insignificant. For those at lower CVD risk, events were generally too few to allow multivariate analyses.

**Conclusions:** We found inverse relationships between increased use of some CVD medications; and MI, stroke, and mortality (although some were not significant) for some subpopulations but not others. Future research is needed to confirm this to justify the need to eliminate or reduce copays for these drugs for some subgroups that may benefit most from them.

**Key words:** CVD medications, CVD events, CVD risk status, health policy.

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