Reducing older driver motor vehicle collisions via earlier cataract surgery.

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Abstract
Older adults who undergo cataract extraction have roughly half the rate of motor vehicle collision (MVC) involvement per mile driven compared to cataract patients who do not elect cataract surgery. Currently in the U.S., most insurers do not allow payment for cataract surgery based upon the findings of a vision exam unless accompanied by an individual's complaint of visual difficulties that seriously interfere with driving or other daily activities and individuals themselves may be slow or reluctant to complain and seek relief. As a consequence, surgery tends to occur after significant vision problems have emerged. We hypothesize that a proactive policy encouraging cataract surgery earlier for a lesser level of complaint would significantly reduce MVCs among older drivers. We used a Monte Carlo model to simulate the MVC experience of the U.S. population from age 60 to 89 under alternative protocols for the timing of cataract surgery which we call "Current Practice" (CP) and "Earlier Surgery" (ES). Our base model finds, from a societal perspective with undiscounted 2010 dollars, that switching to ES from CP reduces by about 21% the average number of MVCs, fatalities, and MVC cost per person. The net effect on total cost - all MVC costs plus cataract surgery expenditures - is a reduction of about 16%. Quality Adjusted Life Years would increase by about 5%. From the perspective of payers for healthcare, the switch would increase cataract surgery expenditure for ages 65+ by about 8% and for ages 60-64 by about 47% but these expenditures are substantially offset after age 65 by reductions in the medical and emergency services component of MVC cost. Similar results
occur with discounting at 3% and with various sensitivity analyses. We conclude that a policy of ES would significantly reduce MVCs and their associated consequences.

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