Motor vehicle crashes: epidemiology and interventions

96 LICENSE DENIAL AND MOTOR VEHICLE COLLISION FOR DRIVERS WITH DEMENTIA

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Statement of purpose This research examines how dementia impacts performance on various driving ability tests during license review. Odds of motor vehicle crash for drivers with dementia was also calculated and compared to other drivers.

Methods Iowa drivers over the age of 70 referred for medical review of their license were included in this study. Drivers were identified using Iowa’s Enhanced Medical Referral and Evaluation Management System. Drivers who were entered into the system for their first assessment between January 2014–January 2018 were included. Odds of failure of various driving ability tests, crashes in the previous 3 years, and crash following assessment were evaluated using logistic regression.

Results Of over 10,000 drivers in the system, 2.8% (n=286) had a diagnosis of dementia. Drivers referred with dementia were more likely to have their license denied as a result of the review process when compared to other referred drivers. Drivers with dementia had a 3.41 (95% CI: 2.04–5.72) greater odds of failing the on-road driving test and a 5.47 (95% CI: 2.70–11.07) greater odds of failing the driving knowledge test compared to other assessed drivers while controlling for age. Driver with dementia were less likely to have had a crash in the 3 years prior to referral compared to other drivers. While based on few crashes, there was no difference in the odds of crash for the two groups of drivers who kept their license after the referral process.

Conclusions For drivers referred for medical review of their license, a diagnosis of dementia frequently resulted in the denial of a license. These drivers were significantly more likely to fail the various tests used to evaluate driving performance.

Significance This research supports that individuals with dementia have decreased driving ability. Drivers with dementia may benefit from a review of their fitness-to-drive.