components. Additional interviews are ongoing. The toolkit contains an intervention guide, interactive training videos, and other resources. The online toolkit was updated in real time when end-users shared ideas for website improvement.

Results To date, interviewees indicated that a 15-minute intervention would be most feasible in practice. They shared preferences for inclusion of brief worksheet-based options for the intervention and screening questions. Interviewees provided suggestions for website layout and functionality. In addition to the OPT-IN intervention training, some expressed interest in MI training. Additional results will be reported pending completion of final interviews and website images will be shown.

Conclusion Translating an evidenced based research project to an online toolkit is enhanced by an iterative approach. Research therapists are involved in intensive training and supervision that is not always practical for real world implementation. The OPT-IN Toolkit, through the qualitative interviews, went through an iterative refinement to adapt and optimize the intervention translation across settings.

Significance/Contribution to Injury and Violence Prevention The initial study indicated that this intervention can reduce opioid overdose risk with a brief 30-minute intervention. The iteratively refined OPT-IN Toolkit increase the dissemination of this intervention to reduce opioid overdose risk and related deaths.

Funded by The Center for Disease Control and Prevention: # R49 CE002099.

Motor vehicle crashes: epidemiology and interventions

96 LICENSE DENIAL AND MOTOR VEHICLE COLLISION FOR DRIVERS WITH DEMENTIA

Jonathan Davis. *University of Iowa Injury Prevention Research Center*

10.1136/injuryprev-2020-savir.30

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.

Motor vehicle crashes: epidemiology and interventions

97 ADVERSE DRIVING OUTCOMES AMONG ADOLESCENTS WITH ADHD AND DISRUPTIVE BEHAVIOR DISORDERS

Meghan Carey. *Center for Injury Research and Prevention, Children's Hospital of Philadelphia*

10.1136/injuryprev-2020-savir.31

Purpose We aimed to examine the joint and independent associations of attention-deficit/hyperactivity disorder (ADHD) and disruptive behavior disorders (DBD, which includes oppositional defiant disorder and conduct disorder) with adverse driving outcomes among adolescents over their initial years of licensure.

Methods/Approach We utilized electronic health records to identify New Jersey residents born 1987–1997 who were patients of the Children's Hospital of Philadelphia pediatric healthcare network's NJ primary care practices within four years of driving-eligible age. Records were linked to NJ's licensing and crash databases from 2004–2014. ICD-9-CM diagnosis codes were used to identify adolescents with ADHD ('314') and DBD ('313.81' or '312'). At-fault crash rates in the four years after licensure was compared for adolescents with: ADHD only (n=2,052); DBD only (n=388); ADHD and DBD (n=427); and neither condition (n=15,477). Rate ratios were adjusted for age at licensure, sex, and race/ethnicity.

Results Compared with adolescent drivers with neither condition, adjusted rate ratios for at-fault crashes were: 1.51 (95% CI: 1.37, 1.66) for drivers with only ADHD; 1.44 (1.17, 1.79) for drivers with only DBD; and 1.90 (1.55, 2.33) for drivers with ADHD & DBD. Among drivers with ADHD, drivers who also had DBD had an increased at-fault crash rate compared to those without DBD (1.26 [1.01, 1.56]).

Conclusions ADHD and DBD are independently associated with increased rates for at-fault crashes. Rates for adolescents with ADHD is further heightened by co-occurring DBD. Ongoing analyses will fold in additional years of data, improving sample size, and look further at multiplicative and additive effects. Future research should focus on specific mechanisms by which these conditions influence crash risk.

Significance/Contributions This study is the largest and first longitudinal study focused on examining the risk of adverse driving outcomes among adolescents with diagnosed ADHD and/or DBD, a common co-occurring condition with ADHD, using a population-based sample.