

around the country in ETCC2. A series of protocols and checklists were then developed based on best practices to address the most common injuries as identified from clinical data and implemented in December 2018 as the prehospital standard in Rwanda.

## Results

There were 2909 moto related crashes in this period – 26% of total calls to SAMU resulting in an annual rate of 63 crashes per 100,000 people. Of these, 80% were male, with a mean age of  $30 \pm 10$  (Table 1). The most common injuries were to the lower extremity (33%,  $n = 958$ ) or head (30%,  $n = 878$ ). ETCC 1 was attended by 24 SAMU staff and had increase in median scores from 61% to 90%. ETCC 2 had 22 hospital staff and median scores increased from 40% to 82% after the course ( $p < 0.001$  for both, using matched pair analysis). A one-way ANOVA mean square analysis showed that regardless of the baseline level of training for each participant, all trainees reached similar post-course assessment

scores,  $F(1) = 15.18$ ,  $p = 0.0004$ . Additionally, 17 protocols were created along with simplified checklists for common injuries seen by SAMU based on international best practices (Figure 1). These were reviewed, edited and adopted as national prehospital standard by SAMU leadership.

## Conclusions

To reduce the burden of motorcycle crash injuries in Rwanda, we implemented a multifaceted approach combining epidemiologic assessment, education and standardization of care. This approach is replicable in other developing countries and supports the Ministry of Health of Rwanda in addressing SDG 3.6, decreasing morbidity and mortality from injuries.

## ORCID

E. Krebs  <http://orcid.org/0000-0003-4905-9700>

TRAFFIC INJURY PREVENTION  
2019, VOL. 20, NO. S2, S208–S209  
<https://doi.org/10.1080/15389588.2019.1665433>



## Glossary on drug use and driving safety

Maria Segui-Gomez<sup>a</sup>, Pau Mota<sup>a</sup>, Rebeca Abajas<sup>b</sup>, Prisca Mauriello<sup>a</sup>, and Gérard Saillant<sup>a</sup>

<sup>a</sup>Fédération Internationale de l'Automobile, Vernier, Switzerland; <sup>b</sup>IDIVAL Nursing Research Group, Nursing Department, Faculty of Nursing, University of Cantabria, Cantabria, Spain

### Objectives

The Fédération Internationale de l'Automobile (FIA) is the world governing body of motor sport. In motor sport, anti-doping policies for international competitions were implemented in 2008 and the FIA became a signatory to the World Anti-Doping Code in 2010 (FIA 2019a). Motorsport is a discipline where the use of drugs can jeopardize the safety of other competitors, officials and spectators; therefore, alcohol and drugs should not only be screened after competitions but before. In this respect, education becomes crucial. The FIA Race True program educates drivers and support personnel to the FIA anti-doping rules, while the anti-alcohol program seeks zero tolerance to alcohol use by drivers and officials during competitions (FIA 2019b).

In addition, the FIA works on mobility-related matters assisting automobile clubs in more than 134 countries and with more than 90 million members. As part of a broader safety agenda, drug intake and its consequences on crashes is routinely included in educational campaigns. The impact

of recent drug legalization in several countries is of serious concern following evidence by WHO on the impact of these substances in mobility performance.

The World Anti-Doping Agency (WADA) and the United Nations Office on Drugs and Crime (UNODC) work both on drugs use in completely different settings and with using different terminologies (WADA 2019). In motorsport, both are of importance. In general population mobility, a third set of terminology is used by the WHO. In order to raise the awareness on drug use and road safety in society the first obstacle we face is the different glossary use. This work seeks to establish a common glossary in motorsport as a first step towards global awareness in drugs use and road safety.

### Data and methods

We conducted a systematic review of the existing glossary. A Delphi group with relevant experts on both fields will be implemented to construct the common glossary.

## Results

A unique glossary with all the drugs used in motorsport before, during and after competition. The list will be translated into the languages of the countries where the main motorsports events take place. Each term will be linked to a substance with a complete description of its main physiological effects. Similarly, a unique glossary to be used in general population settings will be set up, following as closely the dictionary to be used in competition scenarios.

## Conclusions

The FIA, as the governing body of motorsport and lead actor in the mobility scene, can play a key role on spreading a

preventive message for Road Safety on screening drugs before racing. The drugs terminology used by WADA, WHO and UNODC are different. To conduct an effective campaign in motorsport, the first step is to agree on a common terminology.

## References

- Fédération Internationale de l'Automobile (FIA). 2019a. Anti-doping sport. Available at: <https://www.fia.com/anti-doping>. Visited: April 2019
- Fédération Internationale de l'Automobile (FIA). 2019b. Race True e-learning programme. Available at: <https://racetrue.fia.com/online/login/index.php>. Visited: April 2019
- World Anti-Doping Agency (WADA). 2019. The world anti-doping code. International Standard Prohibited List. Available at: <https://www.wada-ama.org/en/resources/science-medicine/prohibited-list-documents>. Accessed April 2019.

TRAFFIC INJURY PREVENTION  
2019, VOL. 20, NO. S2, S209–S210  
<https://doi.org/10.1080/15389588.2019.1665427>



# Associations between graduated driver licensing restrictions and delay in driving licensure among U.S. high school students

Federico E. Vaca<sup>a</sup>, Kaigang Li<sup>b</sup>, James C. Fell<sup>c</sup>, Denise Haynie<sup>d</sup>, Bruce Simons-Morton<sup>d</sup>, and Eduardo Romano<sup>e</sup>

<sup>a</sup>Department of Emergency Medicine, Developmental Neurocognitive Driving Simulation Research Center, Yale University School of Medicine, New Haven, Connecticut; <sup>b</sup>Department of Health and Exercise Science, Colorado State University, Colorado School of Public Health, Fort Collins, Colorado; <sup>c</sup>NORC at the University of Chicago, Bethesda, Maryland; <sup>d</sup>Division of Intramural Population Health Research, Eunice Kennedy Shriver National Institute of Child Health and Human Development, Bethesda, Maryland; <sup>e</sup>Pacific Institute for Research and Evaluation, Calverton, Maryland

## Objective

Delay in driving licensure (DDL) may contribute to an increase in risky driving and crash risk. Some of the most vulnerable teens choose to DDL. Studies implicate financial reasons for some DDL. Avoiding GDL restrictions (e.g. passengers, nighttime driving) in the licensure process is also a consideration. The purpose of this study was to longitudinally assess state-level GDL restrictions and their associations with DDL among U.S. high school students.

## Data and methods

We used data from all seven waves of the NEXT Generation Health Study, starting with 10th-grade (2009–2010). The dichotomous outcome variable was DDL. Independent variables were overall ratings of driving restrictions at the learner (i.e. minimum permit age, permit holding period, and required practice hours) and intermediate phases (i.e. nighttime driving and underage passengers) of licensure. We used state-level GDL law details per the Governors Highways Safety Association for the period when NEXT data were collected and GDL law strength ratings as described by McCart

et al. (2010). Associations between GDL restrictions and DDL were examined by sex, race/ethnicity, family affluence, parent education, and family structure using logistic regressions.

## Results

Of the NEXT sample (N = 2785), the percentage of participants residing in a state with learner phase restrictions was 19.8% (weighted, hereafter) for  $\geq 16$  yrs. minimum age, 18.3% for  $\geq 6$  month holding period, and 88.8% for  $\geq 30$  hours required practice. For intermediate phase restrictions, 20.5% participants had a night driving limit of no later than 10 PM, and 22.6% and 64.2% had limits on underage passengers of  $\leq 2$  and  $\leq 1$ , respectively. Of 2525 eligible for licensure during the study period, 887 (38.9%) reported DDL by 1–2 yrs. and 1078 (30.4%) by  $> 2$  yrs.

Interactions between GDL restrictions and covariates were found. In states where permit holding periods were  $\geq 6$  months, Latinos (AOR = 7.74,  $p < .01$ ) and African Americans (AOR = 3.45,  $p < .01$ ) were more likely to DDL vs. Whites. Where minimum age for a learner's permit was  $\leq 16$  yrs., participants in single parent households vs. both

Copyright of Traffic Injury Prevention is the property of Taylor & Francis Ltd and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.