

Young driver licensing and COVID-19

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Received 16 December 2020

Revised 28 January 2021

Accepted 3 February 2021

Published Online First

11 February 2021

ABSTRACT

This commentary examines the available evidence of the safety benefit for current approaches to driver education and licensing for teenagers, and describes a number of promising alternatives that could complement existing approaches pre-licensure. These include strengthening graduated driver licensing requirements during the learner permit stage, validating online driver education, and introducing hazard perception training. During the licensing phase, driver testing could include hazard perception testing and be supplemented by simulated driving to screen teenagers who are likely to fail the behind the wheel test. Post-licensure, parent-teen driving agreements and driver monitoring technologies represent two underutilized, but potentially effective interventions to reduce teenagers' crash risk during independent driving. As states consider changes to the driver education and licensing process in light of the COVID-19 pandemic, policy makers and practitioners could take the opportunity to update their policies and implement state-of-the-art approaches to prevent motor crashes, which persist as the leading cause of death for young people.

Shortly after the first cases of the COVID-19 in the USA, a number of US states, including Georgia, Wisconsin, and Texas, suspended the on-road driving test for teenagers to obtain a driver's license.¹ This extraordinary measure allowed teenagers who had fulfilled the practice driving requirements of the learner permit stage to obtain a license to drive independently, despite the closure of licensing agencies due to the pandemic. While the suspension of the driving test may have been a short-lived measure, the ongoing risks of transmission of COVID-19 raises questions about the future of the test and more broadly about current approaches to the driver education and licensing process. If the driving test was to be removed from the licensing process for a longer term, how can the safety of new teen drivers (and those they share the road with) be ensured? As multiple states within the USA and elsewhere review their policies and practices for driver licensing and testing, it may be timely to revisit the history and scientific evidence for the existing driver licensing process for new drivers.

Since record-keeping about road safety risks began, motor vehicle crashes have been recognised as the leading cause of death among teenagers in the USA.² In most states, teenagers were able to obtain a license around 16 years of age that gave them full driving privileges immediately after passing the on-road driving test.³ In the mid 1990s, a number of US states introduced graduated driver licensing (GDL), a policy innovation first

implemented in New Zealand.⁴ GDL begins with an extended learner stage where novices practice under the supervision of a licensed adult (typically a parent). After a teenage driver passes the on-road test, they are given an intermediate license which limits driving in high-risk situations (eg, at night-time or with teenage passengers).⁵ This phased approach recognises that a lack of experience, rather than deliberate risk taking, is the reason for most teenage drivers' crashes.⁶ GDL supplemented the gatekeeping function of a one-time road test with an emphasis on the process of acquiring the driving experience needed to adequately learn a complex skill, while ensuring this occurs under conditions that protect teenagers from known high-risk conditions.⁷

States with strong GDL laws reduced crashes among 16-year-old and 17-year-old drivers by as much as 20%–30%,^{8,9} primarily by limiting driving and reducing exposure to risky conditions.¹⁰ States that are considering a suspension or modification of their on-road test in response to the pandemic could consider strengthening their GDL programmes in two ways. First, the requirements for supervised driving during the learner stage could be aligned with the latest evidence. Currently, the only requirement beyond practicing for a minimum number of hours is to drive at night. An emerging body of literature also suggests that varied (eg, night-time, inclement weather and busy towns) and frequent practice driving are associated with reductions in crash risk during independent driving.^{11,12} These requirements could be prescribed and verified using smartphone applications that are already widely used by many states to measure the amount of practice driving that teenagers have completed. Second, comprehensive GDL policies could be introduced for those states that are missing essential components such as an extended learner stage or restrictions on night driving and passengers.

In addition to GDL, most states require teenagers to complete some combination of in-classroom and on-road driver education prior to licensure. There is little evidence that these programmes are associated with any safety outcomes directly, although they may indirectly support safety through enhancing the legitimacy of GDL regulations.^{13,14} Driver education often focuses on teen driver risks and basic vehicle-control skills required to share the road with others. While driver education may appear logically appealing, a relationship with improving safety has not been reliably evidenced.¹⁵ Alternative approaches that have shown promise include cognitive-based higher order skills such as avoiding distracted driving, hazard perception, adapting to new technological developments such as in-vehicle navigation and motivational-based higher order



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To cite: Ehsani JP, Kinnear N. *Inj Prev* 2021;**27**:574–576.

skills such as risk awareness, self-awareness and motivation to drive safely.¹⁶ Prior to the pandemic, 11 US states (including larger jurisdictions such as California and Texas) developed and allowed online driver's education curricula. Moving to web-based driver education could have a number of benefits. First, it will reduce the risk of transmitting the COVID-19 while simultaneously increasing access to training.¹⁷ Second, it could allow for the incorporation of other computer-based driver training like hazard perception,^{18 19} which has been found to improve safety outcomes. If handled correctly, a shift to online driver education could be a net positive for teenage driver's safety and equity.

The on-road driving test remains an important and symbolic step in the process of becoming a driver. Widely regarded as a rite of passage, its primary purpose is to motivate learners to practice driving in order to pass the examination, thereby establishing expectations for the minimum set of skills for driving, rather than distinguishing between those teenagers who will crash from those who will not. The overwhelming majority of teenagers (97%) pass their driving test after two attempts.²⁰ Of these newly licensed teenagers, approximately one-third crash in the first year of driving.²¹ If states decide to suspend the on-road test, the pandemic could provide an opportunity to evaluate the relative merits of supplementing the licensing process with contactless assessment tools that have known safety benefits. For example, the UK and several Australian states include a computer-based theory and hazard perception tests alongside the on-road driving test. In these hazard perception assessments, videos of common crash risk scenarios are presented to teenagers who are required to anticipate and identify hazards. Incorporating hazard perception assessments into the driving test in the UK resulted in a reduction in the crash rate for new drivers during the first year of driving.²² During the pandemic, an online hazard perception test in the USA could be administered at home under a parent or guardian's supervision with appropriate steps to ensure the teenager's identity. The software could be downloaded and the examination itself could be proctored and verified by a parent or guardian who signs a statutory declaration. The same process is currently required by several states to verify a teenager's completion of the required amount of supervised practice driving as part of GDL. Another example of non-roadway assessment of driving skills is a pilot study of a virtual driving test conducted in partnership with the Ohio Bureau of Motor Vehicles, which shows promising evidence of effectively screening teenagers who are likely to fail the behind the wheel test.²³

At present, alternatives such as hazard perception testing and simulator testing are used, or proposed, to complement the practical test and not to replace it. As with all alternatives to the driving test, it is critical that these promote practice and improve safety at least to the level same as the status quo. This requirement is the single greatest barrier to implementation due to a lack of understanding of the effectiveness of current practical tests on these measures. It may be that strengthening post-test requirements would also be necessary to ensure safety is not adversely impacted.

Post licensure, parent-teen driving agreements and driver monitoring technologies installed in teenage drivers' vehicles represent two underused interventions to monitor teenagers during independent driving. Parent-teen driving agreements set expectations for teenagers' driving behaviour and establish boundaries related to access for use of a vehicle. In randomised trials, parents using these agreements report stricter limits on teen driving compared with those in a control group.^{24 25} Driver monitoring devices work by providing the teenager with real-time feedback on their driving performance and send parents an

electronic notification of high-risk events. In one US study where teenage drivers were provided with feedback with a flashing light when a high gravitational force (g-force) had occurred, only those drivers whose parents also received feedback significantly reduced the number of g-force events.²⁶ GDL provisions during early independent licensure could be extended to require the use of both parent-teen driving agreements and driver monitoring technologies as a way to synergistically enhance parental engagement during the highest risk period of driving.

The COVID-19 era is upending long held assumptions of what is possible in terms of education, training and testing in many sectors. Many schools and universities have moved to hybrid models of education delivery combining in-person and distance learning programmes and online proctored examinations. Over the next 2 years, the Novice Teen Driving Education Training and Administrative Standards are being reviewed and updated in the USA.²⁷ This includes provisions for online delivery methods for the conduct of virtual driver education and training, updating driver licensing standards, computer-based driving performance assessment and enhanced parent/guardian involvement in the learning-to-drive process. A new approach to driver education, testing and licensing for teenagers that is based on scientific evidence but may not require in-person assessments could be among these evolutionary changes. Policy-makers and practitioners should take this opportunity to update their policies and implement state-of-the-art approaches to prevent motor crashes, which are the leading causes of death for young people. Nevertheless, in the meantime, the driving test plays a critical role in motivating practice, dictating practice content and preventing those who are not ready from becoming licensed drivers. Removing it is not a decision that should be taken lightly.²⁸

Acknowledgements The authors would like to thank Brian Tefft and Dr Rebecca Weast for their comments on a draft of this editorial.

Contributors JPE drafted the editorial. NK provided critical review and edited the manuscript.

Funding The authors have not received funding for this work.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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