Graduated driver licensing: review of evaluation results since 2002

Shope J T

CRD summary
This review concluded that graduated driver licensing resulted in a reduction in accidents involving young novice drivers. The review had methodological and reporting limitations, but the conclusions reflect the evidence presented and appear reliable. All the included studies came from the USA and Canada and the results may not be generalisable to countries with a higher minimum driving age.

Authors' objectives
To evaluate recent evidence on the effectiveness of graduated driver licensing for novice drivers.

Searching
PubMed, ProQuest, Google Scholar, PsycINFO, the Cochrane Library, ERIC, Web of Science and the library collection of the University of Michigan Transportation Research Institute were searched. Search terms were reported. Additional studies were obtained from published updates of graduated driver licensing evaluation activity and by contact with experts in the field.

Study selection
Studies were eligible for the review if they evaluated graduated driver licensing and contained post-graduated driver licensing driving outcome or impact data. Participants in included studies were novice drivers aged between 14 and 20. Most studies reported on changes in frequency of crashes (normally including fatal and/or severe crashes) involving this group, using a time series or pre/post design. Some studies used data for older drivers as a control.

All the studies evaluated graduated driver licensing systems in the USA (individual states or the country as a whole) or Canada. Details of graduated driver licensing interventions varied between states. Time periods for pre/post comparisons ranged from one to seven years after introduction of graduated driver licensing. All the studies of the USA as a whole used the FARS (Fatality Analysis Reporting System) database with or without other data sources.

The author did not state how the studies were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The author did not state that validity was assessed.

Data extraction
The author did not state how data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
Studies were combined in a narrative synthesis, studies of individual states being treated separately from those of the USA as a whole. Differences between studies were discussed in the text and others were evident from tables.

Results of the review
Twenty-one studies of graduated driver licensing in individual states (including five in California) and six nationwide studies of the USA were included.

Most studies in individual states reported that introduction of graduated driver licensing was associated with reductions in crashes of between 19% and 39%. Reported reductions for 16-year-olds ranged from 5% to 73%.

All of the nationwide studies reported that graduated driver licensing was associated with at least some significant reductions in fatalities or crashes.

Results for other outcomes were reported in the paper.
Authors' conclusions
Graduated driver licensing resulted in reductions in accidents involving young novice drivers.

CRD commentary
The inclusion criteria were generally clear, although no specific criteria were stated for study designs. The search covered a range of sources; it was unclear whether language restrictions were imposed or unpublished studies sought, so the risk of missing relevant studies was uncertain. Validity of included studies was not assessed, which meant that the reliability of the included studies and the synthesis derived from them was uncertain. Methods used for study selection and data extraction were not reported, so the review could be at risk of reviewer errors or bias. Relevant details of included studies were presented. A narrative synthesis was appropriate in view of the heterogeneity of the included studies. Despite the methodological and reporting limitations of the review and its reliance on observational evidence, the substantial effects reported in most of the included studies suggest that the conclusions are likely to be reliable. Many of the included studies involved drivers aged 16 or younger, and the results may not be fully generalisable to countries such as the UK, where the minimum age for driving is higher than in the USA and Canada. The review did not examine the effectiveness of different components of graduated driver licensing systems.

Implications of the review for practice and research
Practice: The author stated that policy-makers and others involved in the motor industry could co-ordinate and increase their efforts on improving the driving safety of teenagers.

Research: The author stated that longer follow-up studies are required, as are studies of older teenagers and studies of young drivers at each level of graduated driver licensing.

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