

Reducing young driver crash risk

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The future is bright for reducing teen crash risk

Given the dominance of private motor vehicles as the primary mode of transportation in the United States, and the country's long romance with cars and roads, it is not surprising that obtaining a drivers license is an important milestone in the lives of most teenagers. However, driving is a dangerous activity, even for experienced drivers and particularly for young, inexperienced drivers. The dominance of motor vehicle crashes as the leading cause of injury and death among teenagers is well established, and the timing is right for a review of the current status of research on young drivers. Fortunately, support from the National Institute of Child Health and Human Development (NICHD), the Office of Research and Traffic Records of the National Highway Traffic Safety Administration (NHTSA), and the National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention (CDC), made it possible to organize an expert conference on the topic, which was held at the Airlie Conference Center in Northern Virginia, March 27–29, 2002.

The purpose of the Young Driver Expert Conference was to provide a forum for in-depth discussions about teenage driving and how best to reduce risk of motor vehicle crashes among novice drivers. To bring focus to the discussions, experts were asked to write the papers contained in this supplement issue of *Injury Prevention*. Drafts of the papers were prepared in advance of the conference and shared with the participants. For each paper, a qualified expert was invited to serve as a discussant and subsequently to submit a short discussion paper for inclusion in the supplement. This forum provided for a lively and insightful discussion. Each participant was selected based on his or her relevant expertise; read the papers in advance; prepared a review of at least one manuscript; and was called on to discuss the topics in formal and informal discussion groups. Although it is not unusual for public health professionals to devote themselves to an important task such as this, this effort has been particularly rewarding because the participants were so capable and offered so much.

The five articles and accompanying discussion papers included in this supplement are the product of the Young Drivers Expert Conference. Unfortunately, it was not possible to address all relevant topics. For example, we did not deal directly with issues related to cognition/perception, motor skills, or neuropsychology. There is inadequate research directly related to young drivers in these areas at present and no ongoing applied research that we could locate. Also, we did not directly address issues of alcohol and drugs and driving, which become more of an issue as teens become older and more experienced. Instead, we focused on the most important topics for which a suitable body of research is available: driver's education, risk factors, developmental factors, parental management of teen driving, and graduated licensing.

“Driver education is insufficient to reduce the initial high risk of teen crashes”

By all accounts, driving is a complex task that requires the development of motor skills which allow one to control the vehicle, easily commanding it to start, stop, and maneuver appropriately. Driver education serves the important function of providing prospective drivers with classroom training about the rules of the road and limited in-car instruction. However, as Dan Mayhew and Herb Simpson point out in the first paper in this issue, currently most driver education programs provide only a few hours of in-car, behind the wheel training, not nearly enough to reduce the high risk of teen crashes during the first months after licensure. Moreover, it is unlikely that any state will mandate substantially more practice driving through driver education, although some states now require substantial parent supervised practice driving prior to licensure. Indeed, when participation in driver education leads to earlier licensure, it may actually serve to increase crash risk. While driver education does not seem to impact driver safety outcomes, it provides an important infrastructure that could be improved and modified to better

address the pressing issues of young driver safety.

While vehicle control is essential, it is not entirely sufficient to assure safe driving. Important skills involving perception, anticipation, and avoidance of risk develop gradually over time and many miles of driving. Meanwhile, inexperienced drivers are at greatly elevated crash risk, especially under certain driving conditions. Allan Williams and Susan Ferguson, in the second article, describe the important risk factors for young drivers, which include young age, inexperience, carrying teenage passengers, and driving at night. Although a great deal is known about crash risk among young drivers, as Jean Shope points out in her excellent accompanying discussion paper, conceptualization of relationships among the variables of interest do not usually, but should, emphasize the social context of driving as well as driver characteristics.

Inexperience is clearly a risk factor for injury and crash, regardless of the age of licensure, as indicated by the higher crash rates for all newly licensed drivers during the first months of licensure. However, young age must interact with inexperience, because younger novice teenage drivers crash at higher rates than older novice drivers. However, it is unclear what it is about young age that increases driving risks. In the third paper, Jeffrey Arnett takes a developmental perspective and suggests the need for additional research on the phenomenology of driving among 16–17 year olds. Perhaps, developmental characteristics such as “optimistic bias” or emotionality contribute to young driver crash risk. However, not that much is known about how adolescent development affects driving. Dr Arnett thoughtfully indicates ways development may be important and points out the types of development issues in need of additional research.

“Many parents tend to be less involved than they could be”

Logically, parents can help reduce crash risk related to driving conditions and developmental factors because they determine when their children are ready to get a license and once licensed when, under what conditions, and in what vehicle their children can drive. The growing body of research related to parenting and teen driving indicates that appropriate parent management practices are related to lower levels of risky driving behavior, traffic tickets, and crashes among newly licensed teenage drivers. However, research also indicates that many parents tend to be less

involved than they could be. In the fourth paper, Bruce Simons-Morton and Jessica Hartos provide evidence that it is possible to motivate parents to increase restrictions on their newly licensed teens, at least during the critical first few months of licensure. Intervention research of this sort is in its infancy, and, as Ken Beck points out in the accompanying discussion paper, the effect of the intervention was modest, although promising, and a great deal remains to be learned about intervening effectively with parents of young drivers.

The well known “licensure paradox” (in which driving inexperience can only be overcome through increased driving, but more driving leads to increased exposure and, therefore, greater risk for crash and injury) begs the question “How can novice drivers gain experience without increasing crash risk?” Policies and procedures regarding licensure did not adequately address young driver crash risk until the introduction of “graduated driver licensing” (GDL). Everett Rogers, in his classic book *Diffusion of innovations*,¹ proclaimed that the rate of adoption of social innovations depends on their relative advantages, communicability, divisibility, compatibility, and timing. As social innovations go,

GDL is a modern classic. Adopted sporadically from 1979 to the mid-1990s, GDL is now in place in various forms in about two thirds of states. The rapid adoption of this policy must certainly be due to its unique solution to the licensure paradox by allowing teenagers to drive initially only under lower risk driving conditions. GDL is compatible with contemporary licensing procedures, easy to communicate to policy makers and constituents (parents mainly), easily modified to fit the needs and wishes of each state, known to reduce teenage crashes, and available at a time when there is public support for a policy solution. In the final article, James McKnight and Raymond Peck evaluate the features of GDL that have made it a model policy innovation.

The advent of GDL is hardly the end of the story. As Robert Foss points out in his discussion paper, “It is clear that GDL works. Important questions concerning why it works, how it works, whether initial effects will erode, how it might be improved, and a variety of others remain largely unanswered.” While newly licensed teenage drivers remain at excessive crash risk, GDL provides a structure within which researchers, practitioners, and policy developers can focus their

efforts to improve young driver safety. The articles in this supplement provide a review of the state of research on young drivers and suggest that the future is bright for reducing teen crash risk. Fortunately, a policy solution, GDL, is now available that provides practical solutions for the licensure paradox and may ultimately provide the best context for developing driver education and parent involvement programs. The task now is to take advantage of the opportunities that GDL provides.

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