

Teen Driving Exposure: Basic Approaches

Summary of TRB Young Driver presentation 7/15/10

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In an evaluation of the effectiveness of Michigan's graduated licensing program, several approaches for representing exposure were used (Shope JT, Molnar LJ. Michigan's graduated driver licensing program: Evaluation of the first four years. *Journal of Safety Research* 35:337-344, 2004). For each year studied, data sources included the crash involvements of 16 year-old drivers (from State Police), the population of Michigan 16 year olds (from the Library of Michigan census data), and the number of licensed 16 year-old drivers (single snapshots from the Secretary of State). In addition to estimating change in crash risk between the pre and post GDL years with relative risks and 95% confidence intervals and comparing changes in 16 year-old crash rates with those of drivers age 25 and older, numbers of crashes and crash rates were displayed graphically in two figures, one for all crashes, and one for casualty crashes. Three lines portrayed 16 year-old driver crashes for each year over time: crash counts, crashes per 1,000 population, and crashes per 1,000 licensed drivers. Interestingly, the patterns of all three lines over time were quite similar. Choosing how to represent exposure raises several issues for consideration. How are the data obtained? How easy is it to obtain the data? How accurate are the data? Do the data needed depend on the purpose, or on who is asking the question? If one just needs to observe a trend, are the easy-to-get data adequate? Discussion of these and other issues may lead to practical approaches to understanding young driver issues and to evaluating traffic safety programs.