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TITLE: The Accident Record of Drivers with Bioptic Telescopic Lenses.

DATE: February 1983

AUTHOR(S): Mary Janke & Gregory Kazarian

REPORT NUMBER: 86

NTIS NUMBER: None

FUNDING SOURCE: Departmental Budget

PROJECT OBJECTIVE:

To determine whether the accident rate of drivers with bioptic telescopic lenses ("bioptic drivers") was great enough to warrant denying them a license to drive, as a 1982 American Association of Motor Vehicle Administrators resolution recommended.

SUMMARY:

The bioptic driver group consisted of 229 drivers. A randomly selected comparison sample consisted of 21,064 drivers. The two-year total and fatal/ injury accident rates of the bioptic group were normalized to equate the bioptic group statistically to the comparison group with respect to sex and age. Normalized accident rates for bioptic drivers were significantly greater than the corresponding rates for comparison drivers, being 1.5 and 2.2 times as high for total and fatal/injury accidents, respectively.

IMPLEMENTATION STATUS OF FINDINGS AND RECOMMENDATIONS:

Since other licensed groups of high-risk drivers have even higher accident rates, it was recommended that bioptic drivers continue to be licensed. However, it was also recommended that greater imposition of license restrictions and more stringent post-licensing control be applied to these drivers. A study of visually impaired drivers who do not use bioptic telescopic lenses was recommended as well, since it is possible that some bioptic drivers would actually drive more safely without their telescopic lenses. Departmental management concurred with the recommendations for operational improvements, but all of the recommendations had not been fully implemented as of this writing. The recommended additional study was not conducted.

SUPPLEMENTARY INFORMATION:

A longer technical report of this study was published (Janke, M. [1983], Accident rates of drivers with bioptic telescopic lenses, *Journal of Safety Research,* 14, 159-165). In addition to the analyses described above, the technical report includes an analysis of the driving records of bioptic drivers prior to and subsequent to acquisition of telescopic lenses, and an analysis of total and fatal/injury accidents for bioptic and comparison drivers with valid licenses only. The former analysis showed no significant difference, but a suggestive trend toward increased accidents in the year following lens acquisition. The latter analysis showed significantly more total accidents for bioptic drivers with valid licenses (unnormalized rates); the difference was not significant for normalized total accident rates. There was no significant difference in fatal/injury accident rates between the validly licensed bioptic group and the validly licensed comparison group, regardless of whether or not rates were normalized.

A list of specific program deficiencies and recommendations were summarized in a non technical memorandum to the cognizant program division.

A replication of the study was published in 1996 (see Clark, Report #163). The results closely paralleled those of the present study.