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TITLE: Negligent-Operator Treatment Evaluation System (NOTES): Program Effectiveness Reports

Report # 1

AUTHOR(S): William C. Marsh & Daniel J. Kadell

DATE: December 1985

REPORT NUMBER: 102

NTIS NUMBER: PB86-177706/ AS

Report #2:

AUTHOR(S): William C. Marsh

DATE: December 1986

REPORT NUMBER: 110

NTIS NUMBER: PB87-190674/ AS

Report #3:

DATE: December 1987

REPORT NUMBER: 115

NTIS NUMBER: PB88-215652/ AS

Report # 4:

AUTHOR(S): William C. Marsh

DATE: December 1988

REPORT NUMBER: 117

NTIS NUMBER: PB89-230569

Report # 5:

AUTHOR(S): William C. Marsh

DATE: December 1990

REPORT NUMBER: 128

NTIS NUMBER: PB92-101625

Report # 6:

AUTHOR(S): William C. Marsh

DATE: December 1992

REPORT NUMBER: 137

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PROTECT OBJECTIVE:

To implement and maintain an automated on-line evaluation system for monitoring the effectiveness of the negligent-operator (neg-op) program and to issue periodic reports which present program cost and impact data for this program.

SUMMARY:

This series of reports provides periodic cost-effectiveness analyses of the neg-op program. The evaluation is based on a comparison of the driver records of neg-ops (drivers with multiple traffic conviction and 1 or accident points) who were randomly assigned to a treatment or to a no-contact control group. Three levels of progressively more severe neg-op treatments were evaluated in this manner-warning letter (W/L), notice of intent to suspend (N/I) and probation hearing (P/H). Beginning with Report #4, probation violation suspensions (the fourth and most severe level of neg-op treatment) were evaluated indirectly, using data from level-3 recidivists. Drivers at each level were eligible to receive either a standard or an alcohol-tailored treatment.

Report #1 (December, 1985): The three treatments under evaluation by NOTES reduced the number of drivers cited for traffic offenses. Reductions of 10.2%, 9.9%, 22.5%, were found for W/L, N/I and P/H treatments, respectively. Each of these reductions was highly significant statistically. These reductions in cited drivers were similar to those found for comparable treatments in the previous neg-op programs. However, the impact of NOTES was considerably greater, because it treated almost four times the number of drivers. Furthermore, the greater impact was achieved at a slightly lower cost. No attempt was made to evaluate treatment effects on subsequent accidents because the sample sizes and follow-up intervals were too small to reliably detect differences in accident rates. An evaluation of the accident-reduction impact of the program appeared in Report #2.

Report #2 (December 1986): The standard P/H was the only treatment which produced a consistent and statistically significant reduction in accidents. However, the fact that the reduction appeared only in noninjury accidents raised the possibility that the reduction might have been caused by underreporting of these property-damage-only (PDQ) accidents by treated drivers (this finding was not supported by the new data in subsequent reports). Although there was some evidence that the warning letter treatments at levels 1 and 2 (W/L and N/I) produced a small, short-term reduction in accidents, the pattern of these treatment effects over the entire follow-up period was too inconsistent to justify firm conclusions about the effectiveness of these letters in reducing accidents. Each of the standard treatments produced a statistically significant reduction in traffic citations. At each level, the standard treatment was more effective in reducing accidents and citations than the corresponding alcohol treatment, although the differences in effectiveness were not always statistically significant. At each level, drivers in the alcohol control group represented a lower risk in terms of future accident and citation involvement than drivers eligible for the corresponding standard treatment.

Report #3 (December 1987): When the results for the W/L and N/I (levels 1 and 2) were combined, they revealed a statistically significant reduction in accidents. The standard P/H (level 3) was the only treatment which produced a statistically significant reduction in accidents when analyzed by itself. Furthermore, in the data collected following the data extraction for Report #2, there was no evidence of any underreporting of PDQ accidents for the standard P/H treatment group. At each level

the evidence indicated that the treatments were effective in reducing both injury accidents (fatal and nonfatal combined) and noninjury accidents. Each of the standard treatments produced a statistically significant reduction in traffic citations. The standard P/H treatment (level 3) produced the largest impact on accidents and citations. Generally speaking, each standard treatment was more effective in reducing accidents and citations than the corresponding alcohol treatment. At each level, drivers in the alcohol control group generally represented a lower risk in terms of future accident and citation involvement than drivers eligible for the corresponding standard treatment; the one exception to this rule was major traffic convictions, for which the alcohol groups represented higher risks.

Report #4 (December 1988): When the results of warning letters and notices of intent (levels 1 and 2) were combined they revealed a statistically significant reduction in total accidents. The standard probation hearing (level 3) was the only treatment which produced a statistically significant reduction in total accidents when analyzed by itself. Regarding injury accidents, both the alcohol warning letter and alcohol notice of intent were significantly more effective than the corresponding standard treatments at levels 1 and 2, while at level 3 the data showed the opposite trend, with the standard probation hearing treatment appearing to be more effective than the alcohol treatment. Although the latter result was not statistically significant, it was suggestive of a differential effect ( $p < .11$ ). At each of the first three levels the standard treatment was significantly more effective in reducing citations than the corresponding alcohol treatment. Regarding alcohol- and drug-related incidents, only the level 3 standard treatment produced a statistically significant reduction. At level 4, the data showed strong indirect evidence that probation-violator sanctions were very effective in reducing accidents and citations.

Report #5 (December 1990): Both W/Ls and N/Is independently showed significant reductions of accidents. The results for level 3 revealed that the standard P IH significantly reduced accidents and showed that the standard intervention was significantly better than the alcohol P/H, which had an/accident rate that was directionally worse than its control group's rate (although this latter finding was not statistically significant). At level 3 the findings for injury accidents (those involving an injury or fatality) paralleled those for all accidents. When the results for levels 1 and 2 were combined, the letters showed a significant reduction in injury accidents with the alcohol letters at levels 1 and 2 being significantly more effective than the standard letters. At each of the first three levels only the standard intervention produced a significant reduction in traffic citations, and these results were significantly better (more effective) than those for the corresponding alcohol intervention. Regarding alcohol and drug-related incidents, only the level 3 interventions produced a statistically significant reduction. At level 4, the data again showed strong indirect evidence that the probation-violator sanctions were effective in reducing accidents and citations.

Report #6 (December 1992): Only at level 3 was there a statistically significant reduction in total accidents due to the interventions, although there was some evidence that the interventions at levels 1 and 2 also reduced total accidents. Regarding injury accidents, both levels 1 and 3 showed statistically significant impacts. Intervention at each of the first three levels produced statistically significant reductions in traffic citations; however, at levels 1 and 2 each of the standard letters was significantly more effective in reducing citations than the corresponding alcohol letter. Regarding alcohol and drug-related incidents, only the level-3 intervention produced statistically significant reductions. At level 4, the data showed strong indirect evidence that probation violator sanctions were very effective in reducing accidents and citations. A comparison of telephone versus in-person hearings at level 3, showed no evidence of any adverse impact on traffic citations associated with the adoption of telephone hearings.

#### IMPLEMENTATION STATUS OF FINDINGS AND RECOMMENDATIONS:

Report #1 supplied DMV, the Legislature and other decision makers within California with cost and effectiveness data which supported the continuation of the neg-op program until more definitive results became available in later reports.

Reports #1 through #7 generally supported the continuation of the neg-op program, except that the inconsistent accident results for the level 1 treatment in Report #2 supported a decision to discontinue sending level 1 W/Ls in May 1987. However, more positive findings in Reports #3 and #4 led to a reversal of that decision, and DMV resumed sending level 1 W/Ls in September 1989. A

recommendation in Reports #2 and #3 that the use of license suspensions be increased in the regular level-3 treatments was adopted and implemented in the fall of 1988. Reports #2 and #4 recommended the elimination of the alcohol treatment at level 3 (because of negative directional results). These results plus questions about the legal authority for this treatment led to its discontinuance in September 1989.

Report #6 evaluated the adoption of telephone hearings (versus in-person hearings) and showed no negative safety impact related to the change in policy. This result tended to support the continued use of the new hearing format.

SUPPLEMENTARY INFORMATION:

See Marsh, 1985 (Report #94) Negligent-Operator Treatment Evaluation System: Progress Report. A paper containing results of Report #4 was presented at the Conference on Driver Competency Assessment, San Diego, October 1990.