The Decline in Drinking-Driving Fatalities in Canada: A Decade of Progress Comes to an End?

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BACKGROUND

It has been well documented that the scope and intensity of activity directed at the problem of drinking and driving was unprecedented in Canada during the 1980s. Public and political concern about the problem fostered new and tougher legislation, increased and stricter enforcement, a proliferation of mass media campaigns, education and awareness programs, a renaissance for treatment and rehabilitation as well as for technological interventions (Beirness et al., 1993a).

Commensurate with this heightened level of activity, corresponding declines in the magnitude of the problem itself were noted (Beirness et al., 1993b). For example, Simpson et al., 1994 showed that the magnitude of the drinking-driving problem decreased significantly in Canada during the 1980s and that the decrease appeared to be unique to that decade, since no similar changes were evident in the preceding years. Several indicators of the magnitude of the impaired driving problem were examined and all showed that the problem had declined during the 1980s: (1) there was a substantial decrease of about 30% in the proportion of impaired drivers detected in random nighttime roadside surveys; (2) the percent of fatally injured drivers who were impaired (BAC >80 mg%) also declined by about 30%; and (3) there was a 40% decrease in the number of drinking drivers injured in road crashes. Remarkably similar changes were also found in the United States (Fell, 1990). Recently, it was discovered that many other countries experienced declines in the problem similar to those in North America (Sweedler, 1994).

These changes have been the subject of considerable study and the explanations for them the subject of considerable speculation. The most common conclusion has been that the decline in drinking and driving witnessed during the 1980s was attributable to the collective impact of the diverse initiatives occurring at that time. At the same time, more cautious interpretations have been placed on these results by others. For example, Simpson et al. (1994) analyzed the declines that occurred in Canada during the 1980s and suggested that “while it might be comforting to speculate that the observed changes in the magnitude of the problem were somehow induced by the combined impact of all the drinking and driving initiatives, it is also possible the changes were unrelated to them.” They showed that economic factors, unemployment rates, shifting demographics and patterns of alcohol consumption could also have precipitated the change.

Despite the fact that the precise determinants of the declines observed during the 1980s have not yet been identified, there is little doubt that change did occur. The purpose of the present paper is to determine whether or not the decline that was so evident in the 1980s has
continued. It provides an update on trends in drinking and driving in Canada by examining available data for the early part of the 1990s.

DATA SOURCES

Since 1973, the Traffic Injury Research Foundation (TIRF) has collected and maintained a database containing the results of tests for the presence and amount of alcohol performed on fatally injured drivers in seven provinces (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, and Prince Edward Island. In 1987, the Fatality Database was expanded to include all ten provinces and the two territories). Rates of testing for alcohol vary somewhat among jurisdictions but, on average, about 80% of drivers of highway vehicles who died within six hours of the crash are tested for the presence of alcohol each year. Because the basic unit of analysis is the fatally injured driver, not drivers involved in fatal crashes, the data cannot be used to address questions about the number of people killed in alcohol-related crashes. Nevertheless, given high rates of testing, statistics based on these data provide accurate and valid estimates of alcohol use among all driver fatalities.

Information on the presence and amount of alcohol in fatally injured drivers is used in this paper as an index of the alcohol fatal-crash problem in Canada. Trends in the problem are examined using a variety of indicators derived from the fatality database.

RESULTS

One of the most frequently used measures of the magnitude of the drinking-driving problem is the percent of fatally injured drivers who tested positive for alcohol. These data are presented in Figure 1 for the years 1980 through 1993.
As previously reported (Simpson et al., 1994), during the 1980s there was a reasonably consistent and rather dramatic decline in the percent of fatally injured drivers who were positive for alcohol. For example, in the early 1980s, about 60% of all the drivers killed in Canada had been drinking. By 1990, this figure had reached a low of 43%.

However, this downward trend has been clearly interrupted. The percent of fatally injured drinking drivers increased in 1991 to 46%, increased again in 1992 to 48% and, although it declined somewhat in 1993 to 46%, it still remains above the low that had been achieved in 1990.

Another commonly used indicator of the drinking-driving problem is the percentage of all fatally injured drivers who had a BAC in excess of 80 mg%, given that this level legally defines impaired driving in Canada. Figure 2 presents this indicator for each year from 1980 to 1993. Since 1981, the percent of fatally injured drivers with BACs over 80 mg% declined progressively, reaching its lowest level (35%) in 1990.

Once again, however, this positive trend did not continue beyond 1990. In the following three years, the percent of fatally injured impaired drivers increased to levels that are comparable with the magnitude of the problem in 1988.

Another common measure of the drinking-driving problem is the ratio of the number of drinking drivers to the number of non-drinking drivers. Although this measure, called the Problem Index, conveys much the same information as the percentages described above, it does so parsimoniously and has considerable communication advantages. The ratio of drinking to non-drinking driver fatalities permits a more direct assessment of the extent to which the number of drinking driver fatalities has changed, relative to the number of non-drinking driver fatalities. This ratio (multiplied by 100) has been called the Problem Index.

Figure 3 plots the Problem Index from 1980 to 1993. The value of 100 represents the point at which the number of drinking and non-drinking driver fatalities would be equal. Values above the line indicate that the number of fatally injured drinking drivers exceeded the
number who were not drinking. In this regard, during the early 1980s the number of drinking driver fatalities greatly exceeded that of non-drinking drivers. But the Index began to decline after 1981 and, in 1988, for the first time, the Problem Index fell below 100 -- the number of drinking driver fatalities in that year was lower than the number of non-drinking driver fatalities.

![Figure 3](image)

**Figure 3**

Trends in the Problem Index

The significant and consistent decrease in the drinking-driving problem during the 1980s was, however, interrupted in the early 1990s. As can be seen, the Problem Index increased during the early part of the 1990s.

**DISCUSSION**

Consistent and significant declines occurred in a variety of drinking-driving indicators during the 1980s in Canada. Previous work (e.g., Simpson et al. 1994) has shown that this did not represent a continuation of a trend from the 1970s but rather a marked departure from it. For example, during the 1970s, the percent of fatally injured drivers who had been drinking remained relatively constant at between 57% and 62%. Beginning in 1981 this percentage began to decline, reaching a low of 43% in 1990.

These changes have been much heralded, and for good reason, since they are unparalleled in the recorded history of drinking and driving in Canada. However, this decade of progress appears to have been interrupted rather abruptly and significantly in recent years. The downward trend has been replaced by an increase in the percent of fatally injured drinking drivers and the problem has returned to levels comparable to those found in 1988.

The reasons for this are open to speculation. We offer no explanation at this time because none is evident. It would perhaps be much easier to identify the causes if we had a better understanding of what precipitated the declines during the 1980s in the first place. However, we still contend that the factors responsible for the declines during the 1980 have
not been adequately documented. As a consequence, precisely why the declines occurred during the 1980s, remain as poorly understood as why this decline has apparently come to an end and, worse yet, been replaced by an increase.

REFERENCES


