

## (Abstract)

**Background:** It is principally the area of enforcement that offers the greatest opportunity for reducing alcohol-impaired driving in the near future. How much of a reduction in drinking and driving would be achieved by how much improvement in enforcement intensity?

**Methods:** We developed logistic regression models to explore how enforcement intensity (six different measures) related to the prevalence of weekend, nighttime drivers in the 2007 National Roadside Survey (NRS) who had been drinking (blood alcohol concentration [BAC]>.00 g/dL), who had BACs>.05 g/dL, and who were driving with an illegal BAC>.08 g/dL.

**Results:** Drivers on the roads in our sample of 30 communities who were exposed to fewer than 228 traffic stops per 10,000 population aged 18 and older had 2.4 times the odds of being BAC positive, 3.6 times the odds of driving with a BAC>0.05, and 3.8 times the odds of driving with a BAC>0.08 compared to those drivers on the roads in communities with more than 1,275 traffic stops per 10,000 population. Drivers on the roads in communities with fewer than 3.7 driving-under-the-influence (DUI) arrests per 10,000 population had 2.7 times the odds of BAC-positive drivers on the roads compared to communities with the highest intensity of DUI arrest activity (>38 DUI arrests per 10,000 population).

**Conclusion:** The number of traffic stops and DUI arrests per capita were significantly associated with the odds of drinking and driving on the roads in these communities. This might reflect traffic enforcement visibility. The findings in this study may help law enforcement agencies around the country adjust their traffic enforcement intensity to reduce impaired driving in their community.