

THE HEALTHY BORDER 2010 INITIATIVE – *Safety Belt Use on the US-Mexico Border*

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Abstract

The comprehensive report, Healthy Border 2010, identified reduction of motor vehicle crash death rates by 20% in Mexico and 25% in the US as priority targets. The report also identified seatbelt usage as the first approach to reach these targets. Our study measured seatbelt usage in a cross-border context and compared seatbelt usage with other areas in North America. Suggestions are made for correcting the problem of low levels of seatbelt use.

Introduction

In the US-Mexico border area, injuries are a leading cause of mortality, with road traffic injury deaths being the number one cause of mortality due to injuriesⁱ. The Healthy Border 2010 initiative has established 10-year objectives to improve health of the populations living on the US-Mexico border through a bi-national collaborative effort. One objective set forth by the initiative is to reduce motor vehicle crash death rates by 20 per cent in the Mexican border region (from 11.4 to 9.1 deaths per 100,000 inhabitants) and by 25 per cent in the US border region (from 13.3 to 10.0 deaths per 100,000 inhabitants).

The Healthy Border 2010 report stated that the risk of road traffic death on the US-Mexico border is greatest for young adults (15-24 years of age) and the elderly population (75 years of age and above). Demographic characteristics of the border population show that the median age of the population is very young, which means that these populations are at high risk for death in motor vehicle crashes. The border population is estimated to grow at a rate that is three times that of the US populationⁱⁱ. As the population in the border region continues to grow and motorize, an

increase in road traffic injury deaths will be inevitable, in particular on the Mexican side of the border.

Fortunately, the Healthy Border 2010 initiative identified improving seatbelt use as a priority in reducing motor vehicle crash deaths in the region. Research has shown that seatbelts dramatically reduce the risk of road traffic injury deaths – by an estimated 38% to 46% among driversⁱⁱⁱ and by an estimated 45% among front seat passengers^{iv}.

Unique in various aspects, the US-Mexico border region continues to lack data on essential health indicators. In this study, we estimate the safety belt usage for two border cities, Nogales AZ, USA, and Nogales, Sonora, Mexico. This study will provide policymakers with information that will help them address the occurrence of very high road traffic injury death rates in the border population.

Methods

The collection of data was quite simple. A team of two, observer and recorder, was stationed at busy intersections within a few blocks of each side of the border to observe the driver’s use of shoulder restraint as cars slowed to turn. The team observed and recorded use or non-use of shoulder restraint, gender of driver, and license (Mexican or US) of the vehicle. Comparative measures of seat belt use were obtained from articles listed in MEDLINE and in Google.

Results

Restraint	Males				Females			
	Yes	No	Total	%Yes	Yes	No	Total	%Yes
US License	4	10	14	29	5	6	11	45
Mexico License	5	9	14	36	4	4	8	50
Total	9	19	28	32	9	10	19	49

Table 1. Driver’s use of seat belt in relation to the license of the vehicle for both genders in Nogales, Arizona, USA.

Restraint	Males				Females			
	Yes	No	Total	%Yes	Yes	No	Total	%Yes
US License	2	3	5	40	1	2	3	33
Mexico License	13	17	30	43	4	6	10	40
Total	15	20	35	43	5	8	13	39

Table 2. Driver's use of seat belt in relation to the license of the vehicle for both genders in Nogales, Sonora, Mexico.

Restraint	Yes	No	Total	%Yes
US License	12	21	33	36
Mexico License	26	36	62	42
Total	38	57	95	40

Table 3. Driver's use of seat belt in relation to vehicle licensure.

The overall use of shoulder restraints on the two sides of the border, combined, was 40%. Although the numbers were generally too small for valid comparison of subgroups, fewer than half of the drivers were restrained in each of the 8 subgroups presented in Tables 1 and 2, subdivided by gender, location of observation, and country of licensure.

There was no significant difference in observed safety belt use in the US-Mexico border region by gender, vehicle license, or country. However, in both countries, drivers of vehicles with Mexican license plates were slightly more likely restrained (42% vs. 36%, Table 3).

Discussion

Over the years, many lost their lives in the US-Mexico border region due to environmental conditions while trying to make a crossing of the US-Mexican border.^v These deaths were mostly attributable to heat exhaustion. Although these very tragic events received vast media coverage, deaths due to road traffic injuries received little attention although they claimed the lives of 90 people annually, on average, from 1985 to 1998.^{vi}

Road traffic injuries occur as a result of the interaction of a number of factors. The driver, the vehicle, and the environment all play critical roles in the occurrence and the outcome of road

traffic injuries^{vii}. Defining the problem and its contributing factors is important for establishing preventive measures to ameliorate road traffic safety problems. Thus, collection of accurate and detailed data is a vital step in planning and implementing appropriate interventions that would reduce the toll of road traffic injury deaths in the US-Mexico border population.

It has been shown that in 1997, 55% of road traffic injury deaths in Mexico City were pedestrian deaths while on the US side, in Los Angeles County; the percentage was only 12.5.^{viii} The researchers attributed the high frequency of pedestrian fatalities in Mexico City to the influx of rural migrants, who are not familiar with heavy road traffic.

One of the objectives of the Healthy Border 2010 initiative should therefore be to provide more compatible environments for pedestrians. Hajar *et al* recommended development of road median fences that would prevent crossings other than at designated crosswalks, pedestrian-friendly walkways, and broader public education on road traffic to drivers and pedestrians to improve road safety in the border region.

Despite the small numbers of observations in this very limited sample, the consistency of results regarding low seat belt usage rates suggests that the high road traffic injury mortality rates experienced in the US-Mexico border region is likely to be related to very low levels of safety belt use in the border population. Although 81% of drivers in the US and 91% of drivers in Canada buckle up according to recent seat belt use surveys in these countries,^{viii} our findings showed that the percentage of drivers using restraint in the border region is at a low 40%.

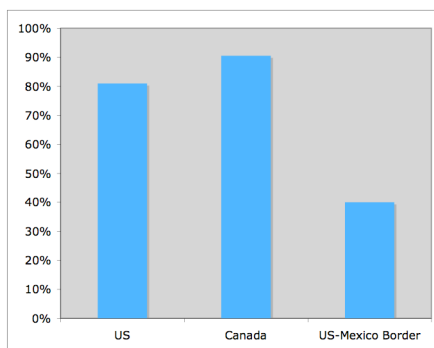


Figure 1. This figure shows the overall percentage of seat belt use in the US, Canada, and the US-Mexico border.

Implementing and enforcing effective seat belt legislation along with providing meaningful penalties for violators are essential steps in improving seatbelt use on the US-Mexico border. Primary enforcement laws are the best-proven way to increase seat belt usage.^{ix} Arizona is the only state on the US-Mexico border that does not have a primary seat belt law. Maximum fine for violating the seat belt law for the first time in Arizona is at a low \$10, whereas it is \$200 in Texas.^x Arizona's maximum fine of \$10 for violators is simply inconsequential, however Texas' maximum fine of \$200 is likely to make people think twice before deciding on whether or not to buckle up. As 2001 Seat Belt Summit recommended for all states, Arizona should eliminate secondary enforcement provisions for safety belt use, raise penalties for violators, and implement highly visible and effective enforcement programs.^{xi}

In addition to more conventional interventions such as mobilizing police agencies to vigorously enforce safety belt laws in the border region, more specific approaches to address the safety behavior problems of the border population should be designed and implemented. Cohn *et al* conducted a successful behavior-change intervention, aiming to increase seat belt use, along the Texas-Mexico border.^{xii} This school-based, bilingual intervention, aiming at making the nonuse of seat belts less socially acceptable, achieved a 10% increase in seat belt use in the intervention community along the border.

Due to the complex political dynamics of the region, the border population has different cultural norms. Thus, alternative interventions should be designed and implemented following an in-depth analysis of the behavioral characteristics of this population. Our study provided important insight into the border population's current road traffic safety behaviors. Further research should be conducted to identify opportunities to make desired road safety behavior changes in the border population.

Conclusions

This brief study indicates two important actions. First, the study should be replicated in more populous border areas such as El Paso and Ciudad Juarez, and San Diego and Tijuana. Second, Arizona should look to Texas for an example of more effective seat belt legislation.

Acknowledgements

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