



**ROAD SAFETY
IS NO ACCIDENT**

AUGUST 2010

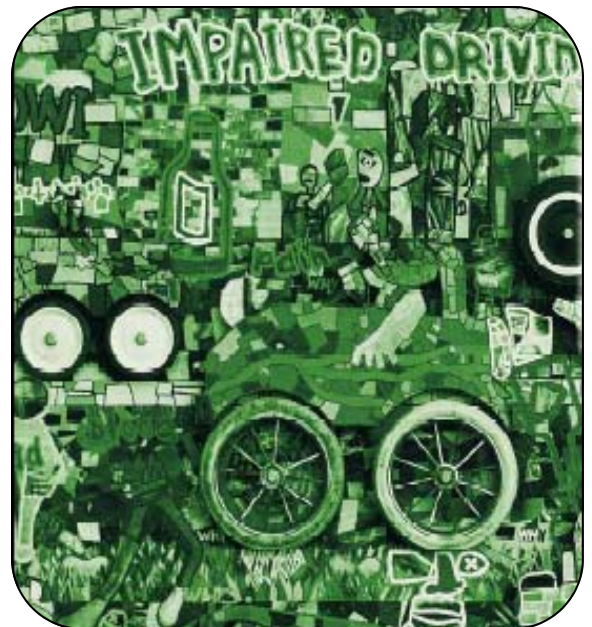
OBJECTIVE:

To estimate the economic cost of road traffic injuries in Belize.

Summary of Economic Impact Study

Background

Road traffic injuries (RTI) have an important negative impact at all levels. RTI cause a high number of sick leave days and produce an elevated amount of healthy life years lost. All this has serious consequences on Belizean society as a whole. With the high rate of RTIs in Belize, there is a need to document the economic burden of RTI in the country. Such information will be of great value, as it will facilitate local planning and programming for injury prevention and the promotion of road safety.



Methods

A cross-sectional study that estimated the cost of road traffic injuries in Belize during 2007 was conducted using secondary cost data and assuming the health system and social perspectives.

Two major databases were analyzed: the mortality database from the Ministry of Health containing all deaths due to RTS during 2007, and the national hospital discharge database, containing all discharges in the same year.

Additionally, a third database containing all emergency ambulance services provided by Belize Emergency and Response Team (BERT) to persons involved in RTIs in the Belize District during 2007 was analyzed. Data from the Belize Social Security Board was also factored into the analysis.

With this information, Years of Potential Life Lost (YPLL) were estimated using the life expectancy of Belize for 2008 reported by PAHO (76.1). Indirect



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cost associated with premature death was then estimated using the human capital approach, taking two different salaries as reference: the

minimum wage for 2007 and the average income of the country for 2007. Total estimation of RTI economic costs used a decision tree model approach.

Multi-way sensitivity analysis was carried out in order to incorporate uncertainty in the estimations.

Direct Cost

A total of BZ\$491,549 was estimated for direct costs during 2007, of which 2.09% was spent on fatalities, 61.61% on severely injured and 36.30% on slightly injured. Most of the cost was estimated for rehabilitation (31%), while hospitalization required 28%, prehospital care 19% and ambulatory medical consultations 17%.



| Severity | Direct Cost | Indirect Cost* | Total |
|--------------|----------------|-------------------|-------------------|
| Fatal | 10,267 | 30,348,870 | 30,359,137 |
| Non-Fatal | Severe | 1,105,930 | 1,408,777 |
| | Slight | 19,696 | 198,131 |
| Total | 491,549 | 31,474,496 | 31,966,045 |

* Indirect cost with discount rate of 10% under the Basal Model assumptions

Indirect Cost

A total of 2,501 Years of Potential Life were Lost in Belize during 2007 due to RTI. This translates in a social loss of BZ\$28,812,671 attributed to indirect cost due to productivity loss using the Belizean average income.

Results

A total of 61 people died as a consequence of RTI during 2007 (a mortality rate of 20.1 deaths per 100,000 inhabitants), 338 were hospitalized and it was estimated a total of 565 slightly injured for this cause. A total of 2,501 Years of Potential Life were

Lost in Belize due to premature death. All this translated in a total economic cost of BZ\$31,966,045 due to RTI during 2007. This figure represents 1.26% of Belizean GDP during 2007. The great majority of the cost is for fatal injuries, specifically on indirect cost attributed to premature death. Direct cost was estimated at BZ\$491,549, of which 2.09% was spent on fatalities, 61.61% on severely injured and 36.30% on slightly injured.



Conclusions

These results make evident the great problem that RTI cause to the health system in Belize and to the society as a whole. The economic cost estimations make

clear the need to prevent RTI utilizing a strategic and multisectoral approach that focuses on addressing the main cause.