

Drivers could lead longer lives by slowing down slightly

Toronto, ON (January 31, 2010) – Sunnybrook Health Sciences Centre researcher Dr. Donald Redelmeier and colleagues have found that each hour spent driving in North America leads to about a 20 minute loss in life expectancy for the average driver due to the risks of a fatal crash. That is, spending about 60 minutes in a car costs about 80 minutes in total for the average driver as time gone from the person's life.

"When drivers try to speed to get to their destination faster", says Redelmeier, lead investigator of the study and staff physician at Sunnybrook Health Sciences Centre, "they actually lose more time because the savings from faster travel are offset by the increased prospect of a crash." The estimates suggest that slowing down slightly by about 3 km/h would cost average drivers about 3 minutes daily in trip time but save them about 3 hours annually in overall survival.

The data indicate a 1 km/h increase in speed above average yields a 26-second increase in total lost time for the average driver because the savings from reduced travel time are more than offset by the raised risk of a crash. A modest 3 km/h decrease in average driving speeds for North America yielded about 11,000 fewer crashes each day, saved about 10 million dollars from property damage each day, and conserved about 199 cumulative life years for society annually.

The study was based on a combination of computerized traffic modeling, national statistics covering driving on public roadways, and the laws of physics. The computer models calculated results taking into account average distances and time drivers in the United States travel daily, the number of annual crashes categorized as fatal, injurious and property damage, and the expected time losses due to crashing at different severities.

"The study suggests that small changes can have large consequences so that, at a population level, such changes would translate to approximately 3 million fewer property damage crashes, 1 million fewer injurious crashes, and 9000 fewer fatalities each year in the United States," says Redelmeier, also a professor of medicine at the University of Toronto. "The savings may be especially large for young drivers."

What these findings mean is that drivers in the United States go slightly too fast on the whole and could improve overall life expectancy by decreasing their average speed slightly. Efforts to reduce speeding merit more attention including photo-radar, traffic calming programs, and street racing crack-downs. "Such programs can have huge gains even if partially effective and imperfectly run," says Redelmeier. "The data are another reminder that haste makes waste."

The study was supported by the Canada Research Chair in Medical Decision Sciences, the Canadian Institutes of Health Research, the National Institutes of Health Resuscitation Outcomes Consortium, and the Patient Safety Service of Sunnybrook Health Sciences Centre.

The results of the study are published in the February 1, 2010 issue of the *Journal of Medical Decision Making*.