

# When physicians report unfit drivers, crash rates go down, study shows

September 27 2012, by Margarita Gallardo

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(Medical Xpress)—Mandatory physician reporting of patients who may be medically unfit to drive led to a substantial decrease in serious road crashes, according to a new study from the School of Medicine and the University of Toronto.

"We found that these warnings are more powerful than warnings about smoking, diet and exercise, and about two times larger than the combined effects of modern [trauma centers](#) at saving people's lives," said Donald Redelmeier, MD, professor of medicine at the University of Toronto and lead author of the study published in the Sept. 26 issue of the [New England Journal of Medicine](#). Robert Tibshirani, PhD, professor of [health research](#) and policy and of statistics at Stanford, is a co-author.

For this study, Redelmeier, Tibshirani and their colleagues examined 100,075 [patients](#) in Ontario, Canada, over the age of 18 who received such medical warnings from [physicians](#) over a four-year period from 2006-10. Their analysis indicated a 45 percent reduction in the risk of [road crashes](#) resulting in emergency department visits in the year following the warnings.

"The data suggest that practicing physicians may be able to help prevent serious trauma from road crashes," write the paper's authors. The results show, added Tibshirani, that "medical warnings about driving are taken seriously by patients."

An estimated 1.2 million people die from [traffic crashes](#) worldwide each year, and one-third of drivers involved in serious crashes suffer from a [chronic medical condition](#). Requirements that physicians report to authorities when a patient has a condition that may make driving hazardous were introduced in Ontario in 1968, and [financial incentives](#) were enacted in 2006 to encourage physicians to report such drivers. (Physicians are paid \$36.25 in Canadian dollars per warning.)

Mandatory reporting is also the law in six U.S. states including California, though the states' approaches vary in terms of disorders covered, legal protections for physicians and administrative requirements. In general, physicians must notify the department of motor vehicles, which then decides whether any action is needed. Such reports sometimes lead to licenses being revoked.

In the study, 95 percent of those patients who received warnings had at least one of the 20 most common diagnoses that may indicate problems with driving, and 21 percent had at least five of the diagnoses that justified a warning. Those diagnoses include alcoholism, epilepsy, dementia, stroke and sleep apnea.

The study showed a marked decrease in the number of car crashes as a result of the physicians' reports. Prior to warnings, the patients had a total of 1,430 crashes over a three-year period, averaging about 466 per year. In the year post-warnings, the rate dropped to about 273 road crashes. Redelmeier described the decrease as "immediate, profound and sustained," particularly among drivers who had multiple diagnoses.

The study also showed that medical warnings might be effective and also save money. "Road crashes are an enormous drain on the U.S. economy," said Redelmeier. "Perhaps about \$200 million might be saved each year by the crashes prevented through physician warnings to patients about driving." (In Ontario, he estimates about \$7 million is

saved each year by preventing crashes.)

While medical warnings may potentially protect patients from road crashes, the researchers also found an associated increase in depression among the patients who had received the warnings, as well as fewer patient visits to the responsible physician. The changes amounted to about a 25 percent increase in the number of patient visits involving depression, and about a 30 percent reduction in return visits in the year after the warning.

Redelmeier emphasized that the patients' dissatisfaction around medical warnings "doesn't mean that doctors should stay silent about the situation. Physicians need to be sensitive, compassionate and prepared to address adverse consequences in the aftermath of a warning."

Provided by Stanford University Medical Center

Citation: When physicians report unfit drivers, crash rates go down, study shows (2012, September 27) retrieved 1 May 2024 from <https://medicalxpress.com/news/2012-09-physicians-unfit-drivers.html>

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