MedicalXpress

Majority of car-pedestrian deaths happen to those in wheelchairs, often at intersections

November 19 2015

An investigation into how often wheelchair users are killed in car-pedestrian crashes finds they are a third more likely to die than non-wheelchair users; more than half of those deaths occur at intersections.

The study, led by Georgetown University researchers, also finds that men who use wheelchairs are five times more likely than women to die in pedestrian crashes. The researchers report their findings today in *BMJ Open*.

"Understanding and describing risks are the first steps to reversing them," says John Kraemer, JD, MPH, assistant professor of health systems administration at Georgetown's School of Nursing & Health Studies and a scholar at the university's O'Neill Institute for National and Global Health Law. "While there was a little data on non-fatal pedestrian injuries among people who use wheelchairs, there were almost none on fatal injuries."

According to the U.S. Department of Transportation, nearly 5,000 pedestrians are killed in traffic crashes each year and an estimated 76,000 are injured.

Using data from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS) (based on police reports of road traffic collisions on U.S. roads) and data from news stories about car crash fatalities published on the LexisNexis U.S. newspaper database, the researchers were able to estimate how many wheelchair

users were pedestrian fatalities.

The researchers calculated that about 528 pedestrians using wheelchairs were killed in road traffic collisions in the U.S. between 2006 and 2012. This equates to a pedestrian wheelchair user's risk of death being about 36 percent higher than non-wheelchair users.

They also found the risk of car-related death was over five times higher for men in wheelchairs than for women, particularly among men aged 50 to 64.

Almost half (47.5 percent) of the fatal crashes occurred at intersections, and in almost four out of 10 (39 percent) of these cases, traffic flow was not controlled.

"A high proportion of crashes occurred at locations without traffic controls or crosswalks," explains Kraemer, whose work focuses on the intersection of public health and law. "When there is poor pedestrian infrastructure or it's poorly adapted to people with mobility impairments, people who use wheelchairs often are forced to use the streets, or are otherwise exposed to greater risk. It also may be telling that, in three-quarters of crashes, there was no evidence that the driver sought to avoid the crash."

Kraemer says while the research wasn't designed to determine the cause of the disparity between wheelchair pedestrians and others, prior research has suggested that "wheelchair users may be less conspicuous to drivers (because of speed, location, and height), and this is a topic that needs to be explored more."

"It is important to make sure that communities are designed to meet the requirements of the Americans with Disabilities Act so that people with disabilities can use them fully and safely," says Kraemer.

More information: *BMJ Open*, dx.doi.org/10.1136/bmjopen-2015-008396