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The Quebec car insurer (SAAQ) seems to administer well the medical restrictions concerning commercial motor vehicles licensees with diabetes. The most problematic group is the one of the 46-55 year olds with diabetes without complications (no insulin use, mainly treated with hypoglycemic agents), particularly the ones with a license for straight trucks only. Because of our findings on exposure for the insulin users, there may be a healthy worker effect, i.e. the licensees with a severe condition might be less likely to drive a truck. With larger numbers of insulin using diabetic commercial drivers on the road nowadays, the study should be repeated.

Driver Distance to the Steering Wheel: Perceptions, Realities and Airbag Safety

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Actuarial data indicate that driver-side airbags reduce overall fatality risks by 11%, but airbag-induced fatal and non-fatal injuries have been reported. The driver's proximity to the airbag is an important safety issue. Under new government policy, drivers are being encouraged to maintain a safe distance from the steering wheel or, if that is not feasible, obtain a manual cut-off switch for their airbag. Yet drivers may not properly estimate their proximity to the steering wheel.

The frequency of misperception among drivers regarding their proximity to the steering wheel is a serious cause for concern. The goal of this study was to assess the degree of misperception regarding the distance that drivers sit from the steering wheel.

A cross-sectional survey was conducted of 1,000 drivers at gasoline stations in the Boston metropolitan area. Participation in the study entailed completion of a written survey and permission for trained interviewers to measure the distance between the center of the steering wheel and the bridge of the driver's nose. Proximity was defined as the distance between the center of the steering wheel and the bridge of the driver's nose, as perceived by each driver and as measured with a tape by trained interviewers. Perceived and measured distances were compared, documenting the number of drivers reportedly or actually sitting with the bridge of their nose within 12 inches of the steering wheel.

The correlation between perceived and measured distances was very low ($r = 0.24$), with drivers under- and overestimating their proximity. Although 234 of the drivers (mostly women) perceived that they sat

within 12 inches of the steering wheel, only 22 drivers (19 women and 3 men) actually did. Of these 22 drivers, only 8 had correctly perceived that they sat within 12 inches.

In a recent regulatory action, the National Highway Traffic Safety Administration defines safe distance as 10 inches from the breastbone to the steering wheel. A significant number of drivers will likely also misperceive this alternative definition of distance.

Drivers who think they sit too close to the wheel may be inappropriately concerned about their safety and disconnect their airbag systems, losing their safety benefits. In contrast, drivers who actually sit too close may not be concerned enough. Since a petition for airbag disconnection must be submitted by the vehicle owner and the driver's risk status cannot be corroborated, injury prevention practitioners and policy makers should be aware of this misperception problem and take a proactive approach to help identify the "at-risk" individuals. Drivers should be encouraged to objectively measure their distance to the airbag in a normal driving situation.

Where Children Sit in Motor Vehicles: A Comparison of Selected European and American Cities

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Historically the rear seat of motor vehicles has been regarded as a safer environment than the front seat for both children and adults. In the mid-1970s, well before the recent concern about airbags, several countries in continental Europe (including Germany, Belgium and France) passed legislation requiring children to ride in the rear seat. The law in France covered children under 10 years of age, while the laws in Germany and Belgium covered children less than 12 years old. However, a 1992 guideline from the European Union, which advocates restraint use in the front and rear seats (rather than a rear seating requirement), has induced some countries to amend their laws. Currently, most European countries (including Belgium, France and Germany) allow properly restrained children in the front seat.

The adverse impact of passenger-side airbags on children has renewed the interest of safety professionals concerning children's seating positions when traveling in motor vehicles. In the summer of 1997, the US National Transportation Safety Board recommended that states amend their child passenger safety laws to compel children under the age of 13 to ride in the rear seat if a rear seat is available.

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Despite this legislative activity, surprisingly little is known about precisely how often American or European children sit in the front of motor vehicles. The goal of this study was to ascertain whether there are differences in child seating location between selected cities in the US and continental Europe, and if differences exist, to ascertain what factors predict them.

Observations were made in the first quarter of 1997 at several locations in or near the cities of: Frankfurt (Germany), Paris (France), Brussels (Belgium), Boston (Massachusetts), and New Orleans (Louisiana). The vehicle seating capacity, total number of occupants, the seating location of adults and children, and driver shoulder belt use were recorded for each vehicle with at least one child. The predictors of a vehicle having a child in the front seat were estimated using logistic regression.

Data on 5,501 children riding in 3,778 vehicles were collected. Adjusting for differences in vehicle seating capacity, occupant mix, and driver shoulder belt use, vehicles in the European cities are

significantly less likely to have a child in the front seat than vehicles in the US cities.

Cities with no history of laws prohibiting children from sitting in the front, vehicles with low seating capacity, vehicles with no adult (other than the driver) or many child passengers, and unbelted drivers were associated with a higher likelihood of children riding in the front seat. It is feasible for a society to insist, through custom and/or law, that children sit in the back seat.

(*Presenter:* Maria Segui-Gomez)

Narayan Yoganandan: This was done in Barcelona. Do you have any plans to do this is other parts of Spain?

M. Segui-Gomez: Unfortunately, I'm not aware of any other plans in other parts of Spain to establish a similar surveillance system. We pioneered this back in 1993 and since then no one has approached us with any comments to do something similar.

N. Yoganandan: Is there any interest from the EU or from the Spain Government?

M. Segui-Gomez: You're asking the wrong person. As you can see, I spend most of my time here so I don't really know the politics internally between the first author and the European Union. I know they are members of the European safety commission team, but I don't know if there are any plans to enlarge this. If I remember correctly, the only similar project in Europe is a Greek project that takes emergency department data and has a wonderful injury surveillance system. They do not only include motor vehicles; they include any type of injury, but as far as I can tell, and maybe the Italians in the audience can confirm this, those two would be the only two surveillance systems that I'm aware of.

Carl Clark: One of the main means to reduce bicycle injuries, both in Europe and in the United States, is to give separate bicycle lanes. Denmark is so impressive on this, but in New England they're doing a great deal of it now. How is that progressing in Barcelona? Is there government pressure to do this?

M. Segui-Gomez: I would actually love to do a field trip and come back with a precise answer. There have been some developments, mostly over the last 8 or 10 years. Some areas of the city have designated bike lanes, although if you walk through Barcelona, you will notice that it's not really the most bike friendly city, both in terms of the topography and in terms of the layout. What they have done actually is they have designated bike days to encourage people to use their bikes as an alternative mode of transportation. So for particular days in the year they will close a number of streets, and actually let those become bike streets and those seem to be very popular and have very high acceptance.

Unidentified questioner: Were the head injuries study with helmets and without helmets?

M. Segui-Gomez: We cannot tell precisely because, as I said, data is not collected by the EDs. I can tell you that at the time of the study, helmet use among motorcyclists was around 80% so the presumption is that and obviously a slightly larger per cent of those who are in a crash are unhelmeted, if I can use that word, but the presumption is that would be higher than you would have thought and higher than the United States helmet rate.