FACTSHEET 15

RESTRAINTS

The use of seat belts for vehicle occupants is a key element to reduce the crash related injury severity. Countermeasures to address restraint non-use include legislation and enforcement of seat belt/child restraint laws, initiatives to promote the correct installation and use of child restraint systems and seatbelt interlocks.

Implementation considerations

Legislation and Enforcement

Automated camera detection systems can identify likely seatbelt offences which are then checked and verified by authorised officers. The large road network in regional and remote areas may make the implementation of this technology difficult.

Correct Installation and Use of Child Restraints

Using existing or developing new partnership programs can facilitate installation and checking of restraints in regional/remote areas.

Studies from the United States have used interactive virtual presence via a smartphone app, which allow communications with remotely located certified fitting technicians[1]. This method of education may be applicable for regional Australia.

Seatbelt Interlocks

Seat belt interlocks could be a very effective means to increase seat belt use. Some overseas research suggests that they are not well accepted by drivers[2].

Effectiveness

Research examining the effectiveness of restraint use estimated that the risk of fatal injury in light vehicles could be reduced by 45% to 50% for front-seat occupants and by about 25% for rear-seat occupants[3].

Education-based initiatives for adults could lead to fatal and non-fatal injury reductions but levels vary with the degree of population uptake (between 25% and 100%)[4].

Correct Installation and Use of Child Restraints

Partnership programs fitting child restraints in remote Aboriginal communities have reported success in delivery outcomes and fostering positive relationships with the community.

Accuracy of child restraint installations improved following remote interaction between participants and certified technicians to around 90%.

Seatbelt Interlocks

Seat belt interlocks that prevent the vehicle being put into gear have been reported to significantly increase the likelihood of using a seat belt in part-time seat belt users by 21% and increased the rate of seat belt use by 16% in the United States[5].

Target road user groups

Vehicle occupants

Target crash type

Restraint use non-compliance

[1] Schwebel, D., Tillman, A., Crew, M., Muller, M. and Johnston, A., 2017, Using interactive virtual presence to support accurate installation of child restraints: Efficacy and parental perceptions. Journal of Safety Research, 62, pp.235-243.

[2]Sivak, M., Luoma, J., Flannagan, M., Bingham, C., Eby, D. and Shope, J., 2007, Traffic safety in the U.S.: Re-examining major opportunities. Journal of Safety Research, 38(3), pp.337-355.

[3]Elvik, R., Vaa, T., Hoye, A. and Sorensen, M. eds., 2009, The handbook of road safety measures. Second Edition, Emerald Group Publishing.

[4]Austroads 2019a, National view on regional and remote road safety (AP-R603-19), Sydney NSW: Austroads.

[5]Kidd, D. Singer, J., Huey, R. and Kerfoot, L., 2018, The effect of a gearshift interlock on seat belt use by drivers who do not always use a belt and its acceptance among those who do. Journal of Safety Research, 65, pp.39-51.

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