PROJECT

IMMORTAL

Impaired motorists, methods of roadside testing and assessment for licensing

Funding: European (5th RTD Framework Programme)
Duration: Jan 2002 - Jun 2005
Status: Complete with results

Background & policy context:

Road traffic safety is a significant issue for society. In the European Union there are approximately 45,000 fatalities per year. At an assumed cost of 3.6 million euros per fatality, the total annual financial loss can be estimated to be 162 million kEuro. The majority of these accidents are caused by human error. Driver impairment is a significant source of error. Thus, Europe must develop a rational transport policy to support interventions to reduce traffic accidents attributable to driver impairment.

Objectives:

The aim of IMMORTAL has been to provide evidence for proposing intervention methods for driver impairment, and support the future development of European policy governing driver impairment legislation. The forms of intervention method considered will be licensing assessment for chronic impairment of driver fitness, and roadside impairment assessment for acute impairment of driver state. At present, there is insufficient information to support policy and the development of valid and standard protocols to evaluate driver impairment. On this basis, IMMORTAL has a number of specific evidentiary objectives to support the stated aim, i.e. to:

- Investigate the influence of chronic and acute impairment factors driving performance and accident risk;
- recommend criteria ('tolerance levels') for high risk categories of impairment; and
- provide key information to support formulation of European policy on licensing assessment and roadside testing.

Methodology:

IMMORTAL is innovative in terms of:

- The multi-disciplinary expertise and European representation of the consortium;
- the range of impairment factors considered and the comprehensive nature of the research;
- the inclusion of a User Representation Panel (URP) comprised of relevant members of government ministries, enforcement agencies, and road user associations from participant member states;
- the relevance to EU policy and standardisation;
- the range of research methodologies applied;
- the specification, verification and exploitation of testing and assessment protocols; and
- the methods of dissemination and exploitation of programme results.

Parent Programmes:
FP5-GROWTH KA2 - Sustainable Mobility and Intermodality

Institute type: Public institution
Institute name: European Commission, Directorate-General for Energy and Transport (DG TREN)
Funding type: Public (EU)

Partners:

Austria:
Austrian Board for Safety and Prevention - KfV

Czech Republic:
Transport Research Centre - CDV

Denmark:
Danish Transport Research Institute - DTF

Norway:
Institute of Transport Economics - TOI; Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology - SINTEF

Spain:
Department of Pharmacology and Therapeutics, University of Valladolid - UVA

The Netherlands:
Institute for Road Safety Research - SWOV; The Brain & Behaviour Institute, Maastricht University - UM-BBI

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Key Results:

IMMORTAL has:

- Found indications - supported by case control studies allowing for more accurate risk assessment - that the proportion of drugged drivers has increased and that mixed consumption has become more frequent;
- found that prosecution of drug use is urgently needed, especially in case of alcohol for drivers with high blood alcohol concentration, and drivers with combinations of drugs and alcohol, and more than one drug;
- shown that the legal framework for both prosecution and further research is important and still has to be established in some cases;
- shown that the degree of impairment not only differs depending on the medical condition, but may also clearly vary individually, hinting at individual compensation abilities being crucial factors in the context of assessing the fitness to drive;
- proven that both medical and psychological variables are relevant for assessment;
- identified frequent random breath testing and alcolocks as promising intervention methods;
- underlined the need for consistent, reliable, and valid standards for licensing procedures;
- found that for high risk categories, such as the use of illegal drugs - with the exception of heroin - zero-tolerance legislation would result in very high costs but hardly any road safety benefits; and
- confirmed that for most medicinal drugs, such as antidepressants, benzodiazepines, codeine, barbiturates and even morphine, therapeutic levels may be provisionally adequate as legal limits.

Policy implications

IMMORTAL provided an extensive set of policy recommendations on licensing, legislation and countermeasures:

- Proper information and awareness regarding the increased risk of drivers with medical conditions listed in Annex III of CD 91/439 CEE should be made widely available;
- the increased risk shown by drivers with certain medical conditions should serve for a further and more strict licensing policy within the EU, aiming at a balance between road safety and mobility;
- some groups of diseases require specific attention, namely neurological disorders, psychiatric...
disorders, drug and alcohol related disorders, and diabetes mellitus;
- among specific disorders sleep apnoea stands out as a candidate for specific attention;
- efforts should be made to harmonise the process of licensing in Europe by proposing a 'best practice model' for licensing;
- both cognitive and physical tests are necessary for an adequate assessment of fitness to drive;
- reaching of a consensus on mental and physical prerequisites for safe driving;
- preventing innocent road users from impaired drivers and lowering the accident rate should be an important motive to examine drivers before they get the licence to drive;
- not all impairments should lead automatically to licence withdrawal;
- periodic standardised checks of the fitness of drivers are very useful, as can be seen in Spain;
- in case of suspicion of impairment, the administration should have the possibility to order medical and psychological assessment before licensing;
- safe mobility is a key factor for cost benefit calculation, so in the case of licence withdrawal, driver rehabilitation or driver improvement measures should aim to re-establish driver fitness and safety awareness;
- the reliability of existing saliva tests is poor, so the final decision about fitness to drive has to be decided by specially trained experts;
- the effect of alcohol/drug and drug/drug combinations on road safety proved to be so detrimental, that effective legislation and enforcement seem to be urgently needed;
- both the prevalence and the relative risk are important parameters for assessing the traffic safety implications of preventing drivers with various medical conditions from driving;
- although road safety policy in general should focus on making any driving under the influence as being

Related Projects:

AWAKE (System for effective assessment of driver vigilance and warning according to traffic risk estimation);
CERTIFIED (Conception and evaluation of roadside testing instruments to formalise impairment evidence in drivers);
CONSENSUS (Promoting consensus in assessing driving ability of people with special needs);
ROSITA (FP4).

Documents:
IMMORTAL_Final_Report.pdf (Final report)

STRIA Roadmaps: Other specified
Transport mode: Road transport
Transport sectors: Passenger transport  
Decarbonisation, Societal/Economic issues,
Transport policies: Safety/Security
Geo-spatial type: Other