

Road traffic injuries in Spain: will we ever conquer this public health problem?

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The magnitude of the problem

Injuries arising from traffic crashes are the fifth leading cause of all deaths in Spain¹. Crashes are also one of the leading causes of death in most of Europe, although the proportional magnitude of that toll is larger in Spain. Approximately 5,000 people were officially recorded as road traffic victims by the Traffic General Directorate (DGT) in 2004. Whether one divides this figure by total population, kilometres driven, or by vehicles available, Spain has one of the highest rates of road traffic victims in the 15 original EU Member States. Counts on non-fatal injuries are equally dramatic. In 2004 there were 113 deaths per million people, only Portugal and Greece with 123 and 153 deaths per million respectively had higher rates. The lowest rates were to be found in the Netherlands, Sweden, and the UK with just 50, 54 and 56 deaths per million in respectively. With the exception of Malta, (which has the lowest rate of all) road traffic fatalities are even higher in all of the new Member States, with rates in excess of 200 reported in Latvia and Lithuania.²

In 2001, when Spain announced that it was signing up to a health objective calling for a 50% reduction in fatalities by 2010,³ the news was warmly welcomed. As with any other health

problem, setting a political goal defining the mission seemed an appropriate initial step in the right direction. This type of normative decision must however be followed by detailed planning, and thus, a Road Safety Strategic Plan 2005–2008 is about to be released by our national authority.⁴

But before we get into the details of this Plan, it might be relevant to evaluate why we are in such terrible state in Spain when it comes to road traffic safety. As in many other southern countries, our good climate encourages people to travel on foot and by motorcycle. While almost everybody is a pedestrian at one time or another, about 12% of the population hold a moped or motorcycle license, accounting for 25% of all licensed drivers. This is an under estimate of the situation as motorcycles comprise 13% of all motor vehicles in the country, and the actual number of people who ride them is not recorded.⁵ Not surprisingly, pedestrians comprise 14% of deaths while another 16% are either drivers or passengers of two-wheeled vehicles.⁶

How many of those on motorcycles suffer injuries (whether fatal or not) because they are not wearing a helmet is a difficult question, since helmet use is not routinely recorded in either police crash reports or health-related datasets (including emergency department records or hospital discharge data). However, some estimates have suggested that this may account for 25% of all deaths.⁶ If roadside observations shed any light on this issue, it may be noteworthy to point out that some 15% of motorcycle drivers and 35% of moped drivers do not use helmets.⁷ Moreover, experience in other countries suggests that those individuals in the general population not wearing

helmets are also the ones more likely to be involved in crashes.

When it comes to another big safety ally, the seat belt, information on its use amongst car crash victims becomes equally elusive. We can only report on roadside observations that suggest that 40% of drivers travel unbelted in urban settings, whereas 14% do so in non-urban settings. The percentage of non-use increases as one looks at other motor vehicle occupants, reaching as high as 73% for rear-seated adult occupants⁸. Child restraints are not used by 27% of infants and by as many as 79% of children aged seven to nine.⁹ As with the situation for two-wheeled vehicle users, experience from other countries suggests that those who ride around unrestrained or improperly restrained are, at the same time, those more likely to be involved in a crash and sustain fatal or non-fatal injuries.¹⁰

Of course, many other factors could be added to the list of risk factors for fatal and non-fatal road traffic victims, including alcohol consumption or the speed of travel. Yet, as public health experts will agree, when trying to improve the health of the population, one must not focus on factors just because they have high relative risks, (that is, their presence increases significantly the risk of death or injury amongst those exposed to it) but also because they have a high population attributable fraction (that is, the population prevalence of the risk factor, coupled with a moderate or high relative risk makes them responsible for a high proportion of injuries that could be prevented in the whole population using a preventive measure).¹¹

Unfortunately, in Spain and in most of

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Europe, road traffic injuries have not been addressed within a proper public health framework. Historically, road traffic victims, whether fatal, non-fatal or permanently disabling, have been addressed in a homogeneous manner that prioritises the reduction in the number of accidents, as opposed to a reduction in the number of injuries that lead to death or disability. Accidents are a necessary but not sufficient condition for injuries to occur.

The new Spanish Road Traffic Safety Strategic Plan

This much anticipated document begins by setting out a political goal of a 40% reduction in fatalities by 2008 (instead of the 50% reduction by 2010 set in the original EC White Paper). The definition of this goal is operationalised as a decrease in the death rate per million of the population. Additional goals are set, for example, for reductions in the death rate per 100 accidents with victims, or reductions in the total number of accidents with victims, although the quantification of such goals is not stated. But as Figure 1 illustrates, motor vehicle-related deaths have been so detrimental to our society for so long that setting goals lower than those recommended at the European level and waiting still further before implementing preventive measures seems not only a waste of time but also a waste of lives. We should have started 'yesterday' working towards their achievement.

The Strategic Plan moves on to outline the development of actions across a number of areas including education and training, surveillance and infrastructure development. Looking at education, for instance, they include using various mechanisms to promote awareness among drivers, pedestrians and other groups. Goals and targets are outlined; they include incorporating road traffic education into the school curriculum and preparing educational materials for people of all ages.

However, it is in the analyses of the key actions and the goals for some objectives where the connection between political health objectives, operational health objectives, and strategies to achieve them become blurred. For example, the links between many stated actions and the overall objective of the Plan are not obvious. For instance, how "the number of meetings by the High Council for Road Safety" is going to affect "the total number of fatalities" or what is the relationship between "improvements in the procedures for issuing driver licenses" and the "number of fatalities or seriously injured people" remains unclear.

More importantly, it is difficult to comprehend why the target on the wearing of helmets by motorcyclists by 2008 is set at 95% and 75% for drivers and passengers respectively rather than at 95% or 100% for both. Nor is it clear why the rate of uptake of seat belt use is set at 90% for drivers and 70% for rear seat passengers and not at 95% or 100%

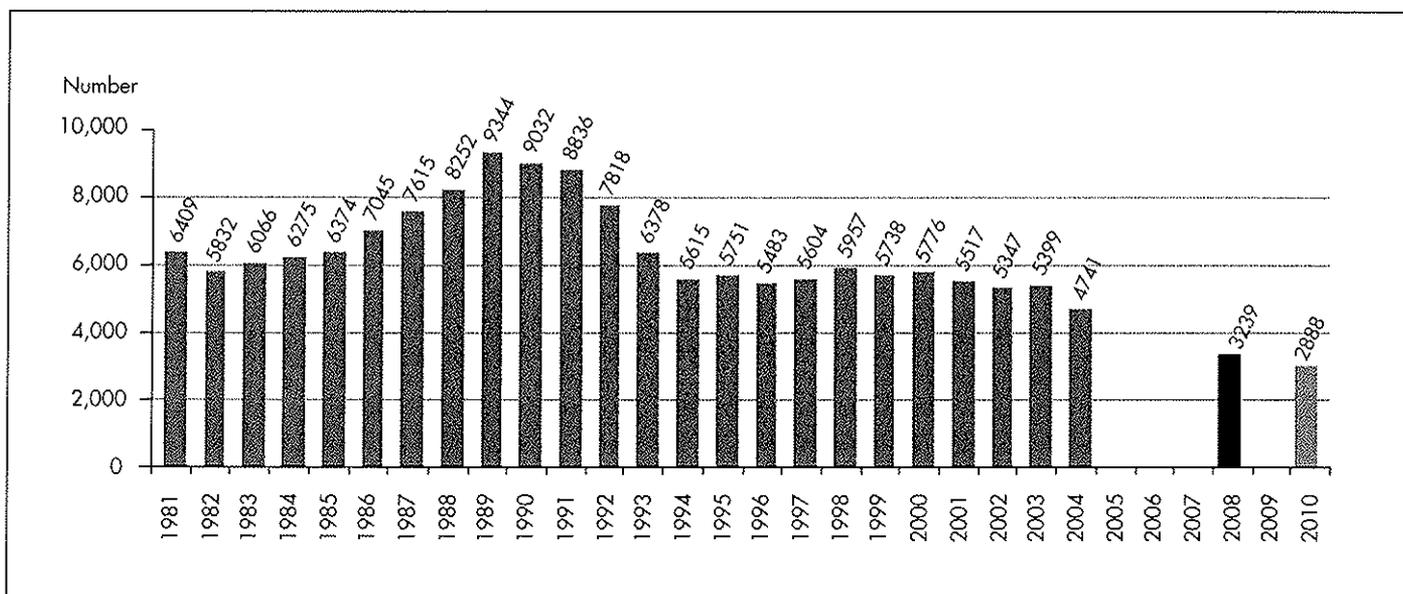
for both. Granted 100% is a difficult target to reach, but why should we be satisfied with just 70% restraint use amongst our car occupants, including our children?

It seems that interventions which we know work, for which there is much room for greater uptake, and that have been successfully introduced in other countries, should be implemented and enforced immediately. Obviously, on top of enforcing these measures, we must continue to work towards identifying interventions which could generate additional benefits and conduct additional research to further understand how to reduce those remaining injuries not addressed by any currently available measure.

The Golden Pill

It is in this paradigm that the DGT have presented their most heavily advertised safety measure, the Penalty System Driving Licence (which is one of the key actions in the Strategic Plan and deemed to be of "high priority"). This idea, which after a year and a half of discussion will finally be introduced on July 1st, is already being used in other European countries, including the United Kingdom (since 1982), France (since 1992), and Germany (since 1999). Conceptually, the aim is to shift the existing idea of a driving license away from a simple authorisation to drive towards the notion of a social credit, which will be lost through the deduction of points 'earned' as a

Figure 1: Spain – trends in fatalities within 30 days of road crash and 2008 and 2010 objectives



result of serious road safety offences. No one can question the potential efficacy of such an idea in an ideal world. However, as with most other interventions, rigorous evaluations of its effectiveness in a real world are still lacking.

But what we want to highlight from this intervention is the disconnection between a specific goal and the selection of specific interventions intended to achieve it. For example, in the proposed system, higher penalties are assigned to risk factors associated with higher relative risks (for example, driving more than 50% above the speed limit). Yet, the public health paradigm and the paradox of preventive medicine¹² are once more forgotten.

In the real world, the majority of cases attributable to a particular risk factor occur among those sections of the population exposed to moderate levels of that risk factor. The proportion of the population exposed to very high levels of risk is usually negligible. How many drivers actually drive more than 50% above the speed limit? And more importantly, how many road traffic casualties are victims of such an offence?

Besides not having answers to either of these two questions, due to the lack of an information system that would provide such data, the international literature tells us that while the risk per high speed accident is high, very few accidents are related to this extreme behaviour —thus, the population attributable fraction of this measure is relative low.

The penalty for driving between 21% and 30% above the speed limit is just two points, yet the reality is that this 'lesser' road safety infraction, because it is a common offence committed by many more drivers, ends up being associated with a much larger numbers of victims, including pedestrians —an example of a high population attributable risk situation. The same argument could be applied to the plan for a three point penalty for not wearing a seat belt or helmet, or the lack of any penalty if one fails to properly restrain child passengers.

Lets bring policy and science together

We applaud the political commitment to reduce road traffic injuries both in Spain and elsewhere. We further applaud the political commitment to translate these goals into actions.

However, in road traffic safety, as with

any other public health problem, good ideas and good intentions must be followed by good data, good science and a good rationale.¹² Once a nation sets up the machinery to develop health-related strategic plans and because of the time and effort that developing these plans require and the opportunity costs entailed, health-related priority selection principles should also come to the table. Promising efficacious interventions, which have not been evaluated in real world settings, must be set apart from those proven to be effective and efficient; the latter meriting immediate implementation.¹³ If seat belt use and appropriate helmet use are associated with a 50% reduction in fatality risks amongst crash victims, we are currently forgoing saving the lives of at least two Spaniards every day. Not emphasising this means not being true to the spirit of the policy that we have signed up to. A sincere adherence to evidence-based commitments is the only path to conquer this problem.

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