

INCREASING MOTORCYCLE HELMET USE

Head injuries among motorcyclists are a growing concern

Rapid growth in the use of motorized two-wheeled vehicles in many countries has been accompanied by increases in injuries and fatalities among their users (26). Motorcyclists comprise a third of all road traffic deaths in the South-East Asia and Western Pacific Regions, but are also increasingly represented among deaths in Africa and the Americas, which are seeing rapid increases in motorcycle use. Head and neck injuries are the main cause of severe injury, disability and death among motorcycle users. In European countries, head injuries contribute to approximately 75% of deaths among motorcycle users; in some low- and middle-income countries, head injuries are estimated to account for up to 88% of such fatalities. Wearing a standard, good quality motorcycle helmet can reduce the risk of death by 40% and the risk of serious injury by over 70% (27). Introducing and enforcing legislation on helmet use is effective at increasing helmet-wearing rates and reducing head injuries (28, 29).

Progress has been made in the number of countries whose helmet laws apply both to motorcycle drivers and passengers, on all road types and regardless of engine type. This figure has risen from 131 countries in 2008 to 155 countries in 2011 (covering 88% of the world's population). High-income countries are more likely to have enacted comprehensive helmet laws than are middle- and low-income countries. To effectively reduce the head injuries associated with motorcycle use, countries need to review their helmet legislation and tighten provisions that limit the coverage and potential effectiveness of such laws, so that all those using motorcycles are protected by the use of a helmet, at all times, on all roads and on all engine types.

To be effective, helmet legislation needs to be supported by strong enforcement and social marketing campaigns (30) (see Box 4). While there has been progress in adopting helmet legislation globally, only about one-third of countries rate enforcement of helmet laws as "good" (8 or above on a scale of 0 to 10), showing that this critical component of road traffic safety remains neglected.

More effort is needed to promote helmet standards and quality

About half of all participating countries (98) apply a helmet standard. Helmets must meet recognized safety standards with proven effectiveness in reducing head injuries to reduce the impact of road traffic crashes. While there are a number of internationally recognized standards, it is important that a particular government's helmet standard is suitable for the traffic and weather conditions of the country, and is both affordable and available to users (26). Furthermore, governments need to ensure that mandatory helmet laws are linked to the helmet standard used, whether an international or country-specific standard. In this way, use of substandard helmets can be a violation of the law, and thereby incur penalties that will act as a deterrent. As illustrated in the Viet Nam case study (see Box 5), enforcing helmet standards can be complicated, and countries need to provide training to enforcement officers on how to identify substandard helmets.

90 countries, representing 77% of the world's population, have a comprehensive helmet law covering all riders, all roads and all engine types, and apply a helmet standard.

BOX 4. CAMBODIA: HELMET LEGISLATION AND ENFORCEMENT SUPPORTED BY A HARD-HITTING SOCIAL MARKETING CAMPAIGN

Between 2005 and 2010, the number of road traffic fatalities in Cambodia doubled. Today, more than 1700 people die each year on the country's roads. Over 60% of these deaths are among motorcycle users, with three-quarters of these fatalities the result of serious head injuries.

In 2009, Cambodia revised its traffic laws, and passed a law requiring motorcycle drivers to wear a helmet. However, despite initial increases in helmet use following the law's adoption, wearing rates among helmet drivers have since remained at approximately 60%, although much higher in the capital, Phnom Penh, than in rural provinces.

Since 2010 the government of Cambodia has embarked upon a programme to increase helmet wearing through enhanced enforcement and legislative action. This programme includes building police capacity to enforce the law and implement helmet checkpoints, and revising legislation to increase penalties for non-compliance. In 2012, the Cambodian government took the next step in supporting their legislative and enforcement efforts with a campaign to increase public awareness: materials shown to be effective at increasing helmet use in other countries were tested through focus groups, and adapted to the Cambodian situation. For example,

the research suggested that showing graphic images of a road traffic crash and the threat of enforcement were considered effective among the target audience, and these elements were incorporated into the final media products. A series of TV commercials, radio adverts, print, "out of home" advertising and billboards were disseminated from July to the end of November 2012. Early results suggest high recall and reach of this campaign, although a more comprehensive evaluation will be required to assess if the ultimate goal of increasing helmet wearing has been achieved.

The government is currently working with other national partners to extend the existing helmet law to include passengers – to date passenger helmet rates are very low, at under 10%. The amended law is currently under review with the national parliament: in view of this, national road safety stakeholders have developed an additional component to the campaign, targeted specifically at enforcement of the passenger helmet law. This will be disseminated as soon as passenger helmet wearing is signed into law.

Source: http://www.who.int/violence_injury_prevention/road_traffic/countrywork/khm/en/index.html, and Cambodia Road Crash and Victim Information System, Handicap International, Annual report 2010.

"Protect yourself from hefty fines and serious head injuries. Wear a helmet."



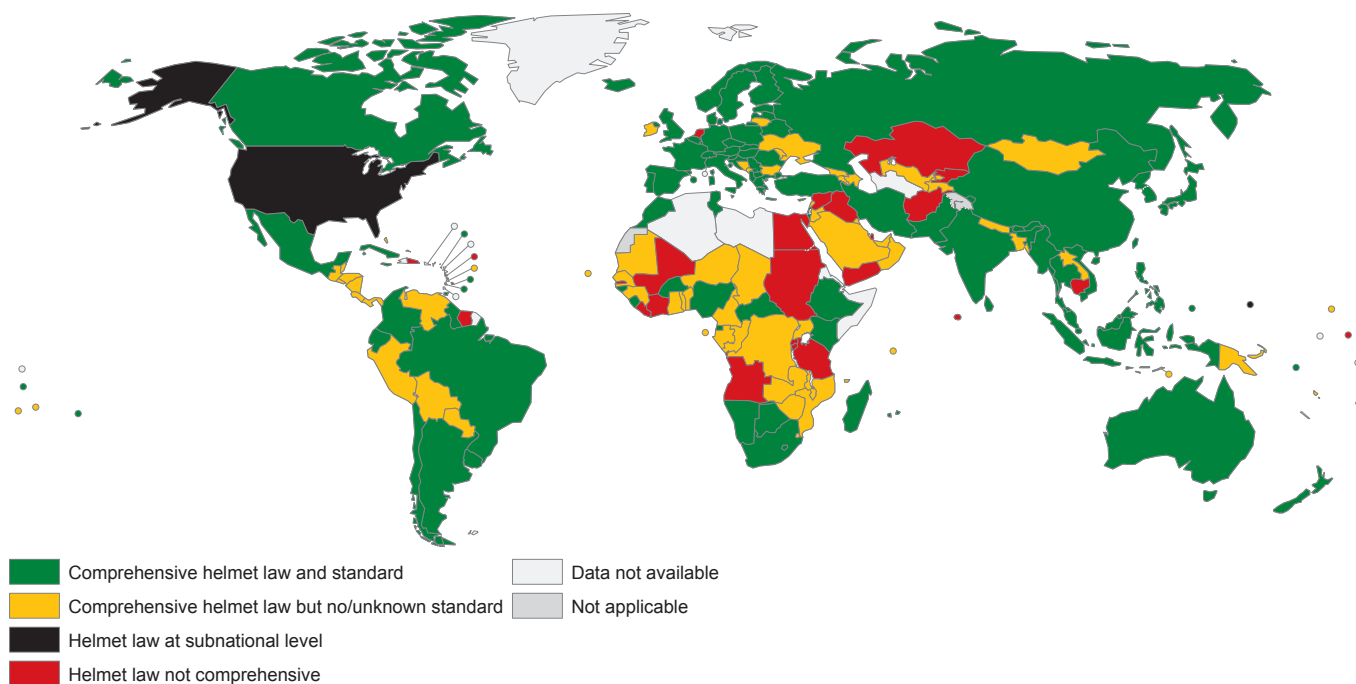
Taken together, this means that 90 countries meet both the criteria considered here as essential for comprehensive helmet legislation to be met, that is, they have implemented a helmet law that covers all road users, all road types and all engine types, and they apply a national or international helmet standard. In the Western Pacific and South East Asia regions, which have the highest proportion of motorcyclist deaths, the proportion of countries covered by such laws is 56% and 64% respectively.

Data on helmet wearing is weak

Countries need to implement measures to periodically assess helmet wearing rates, to target efforts and resources effectively, and to evaluate the effects of helmet programmes, including the impact of mandatory helmet legislation. In most countries, these data come from periodic observational studies conducted according to an acceptable study design that ensures the reliability and validity of results.

Only 69 countries have any type of data on rates of helmet wearing, either on drivers, passengers or both, with wearing rates ranging from under 10% in Ghana and Jamaica to almost 100% in the Netherlands and Switzerland. In particular, there is a lack of data on helmet-wearing rates from low-income countries in the African, Eastern Mediterranean and Western Pacific regions. Given the increasingly high proportion of motorcycle deaths globally, governments need to support data collection efforts that provide good estimates of helmet wearing rates on a regular basis in their countries.

Figure 16
Motorcycle helmet laws and helmet standards, by country/area



BOX 5. VIET NAM: HELMET STANDARDS AND QUALITY

More than 11 000 people are killed each year on Viet Nam's roads. Motorcycles represent 95% of registered vehicles, so the correct wearing of quality helmets is a vitally important road safety intervention to prevent head injuries.

In 2007 Viet Nam introduced new, comprehensive legislation on motorcycle helmet use which – supported by stringent enforcement – led to high wearing rates (over 90%) that have since been maintained. However, while the vast majority of motorcycle riders and passengers are currently wearing helmets, there are concerns about the type, quality and protective ability of many of them. Viet Nam's national quality standard for helmets (QCVN2) was issued in 2008 and promulgates specific requirements for a high degree of impact protection.

Vietnamese standard QCVN2 helmets do not provide the same degree of protection as a UNECE 22 standard helmet, which is considered the gold standard for motorcycle helmets globally. Nonetheless, the tropical climate, the predominance of motorized two-wheelers in the vehicle fleet (and lower average travelling speeds), and the considerably lower cost makes these helmets appropriate and suitable to the Vietnamese conditions and market.

While Viet Nam now has both mandatory motorcycle helmet legislation and a national quality standard, there is currently no

linkage between the two, i.e. to oblige motorcycle riders to wear a helmet that conforms to this standard. In high-performing road safety countries, such as Australia and the United Kingdom, the national helmet standard is specifically referenced in road safety legislation. In Viet Nam, however, police cannot penalise the wearing of substandard helmets and, as such, their use has proliferated since the 2007 helmet law was passed. Recent surveys have found that 82% of helmets worn by motorcycle riders failed to provide the minimum helmet protection required under QCVN2. Furthermore, over half of all new helmets on the market (all of which were registered and labelled as meeting the national standard) also failed testing.

The most common form of substandard helmets worn in Viet Nam comprise only a fragile plastic shell with no expanded polystyrene layer to absorb the energy of an impact in the event of a crash. The extent of substandard helmets could seriously undermine the injury prevention potential of an otherwise successful helmet legislation programme.

A comprehensive approach is currently underway to stop the proliferation of substandard helmets: legislation is being reviewed, possible enforcement mechanisms are being investigated, and a national social marketing campaign is being developed to encourage motorcyclists to consider safety and head protection when choosing a helmet, not just avoiding a fine.



AUSTRALIA



Population: 22 268 384
 Income group: High
 Gross national income per capita: US\$ 46 200

INSTITUTIONAL FRAMEWORK	
Lead agency	Department of Infrastructure and Transport
Funded in national budget	Yes
National road safety strategy	Yes
Funding to implement strategy	Not funded
Fatality reduction targets set	Yes (2011–2020)
Fatality reduction target	At least 30% annually (number of deaths)

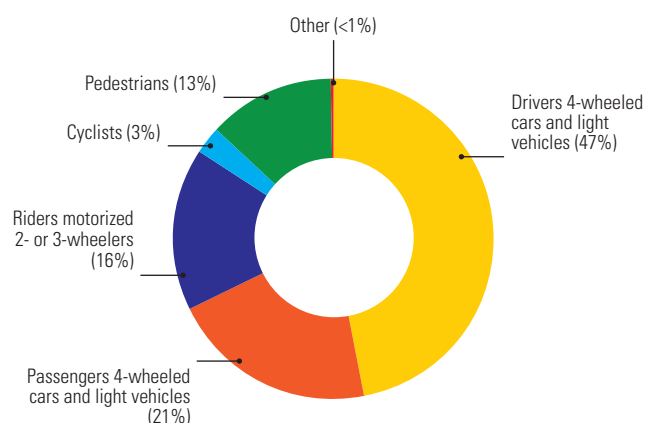
SAFER ROADS AND MOBILITY	
Formal audits required for new road construction	Yes
Regular inspections of existing road infrastructure	Parts of network
Policies to promote walking or cycling	Yes
Policies to encourage investment in public transport	Yes
Policies to separate road users to protect VRUs	Yes

SAFER VEHICLES	
Total registered vehicles (2010)	16 061 098
Cars and 4-wheeled light vehicles	14 729 873
Motorized 2- and 3-wheelers	660 107
Heavy trucks	397 871
Buses	86 367
Other	186 880
Vehicle standards applied	
UN World forum on harmonization of vehicles standards	Yes
New car assessment programme	Yes
Vehicle regulations	
Front and rear seat-belts required in all new cars	Yes
Front and rear seat-belts required all imported cars	No

DATA	
Reported road traffic fatalities (2010)	1 363 ^a , 72% M, 28% F
Estimated GDP lost due to road traffic crashes	1.7% ^b

^a Police records. Died within 30 days of crash.
^b 2009, Dept of Infrastructure and Transport and Regional Economics (BITRE).

DEATHS BY ROAD USER CATEGORY



Source: 2010, Department of Infrastructure and Transport, Australian Road Deaths Database.

SAFER ROAD USERS	
Penalty/demerit point system in place	Yes
National speed limits	Subnational
Local authorities can set lower limits	Yes
Maximum limit urban roads	50 km/h ^c
Enforcement	0 1 2 3 4 5 6 7 8 9 10
National drink-driving law	Subnational
BAC limit – general population	0.05 g/dl ^d
BAC limit – young or novice drivers	0 g/dl ^e
BAC limit – professional/commercial drivers	0 g/dl ^e
Random breath testing and/or police checkpoints	Yes
Enforcement	0 1 2 3 4 5 6 7 8 9 10
% road traffic deaths involving alcohol	30% ^f
National motorcycle helmet law	Subnational
Applies to drivers and passengers	Yes ^g
Helmet standard mandated	Yes ^g
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Helmet wearing rate	99% Drivers ^h
National seat-belt law	Subnational
Applies to front and rear seat occupants	Yes
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Seat-belt wearing rate	97% Front seats ⁱ 92% Rear seats ⁱ
National child restraint law	Subnational
Enforcement	0 1 2 3 4 5 6 7 8 9 10
National law on mobile phones while driving	Subnational
Law prohibits hand-held mobile phone use	Yes
Law also applies to hands-free mobile phones	No

^c All states and territories have a default speed limit of 50 km/h in built-up areas. All except Western Australia and the Northern Territory have a default speed limit of 100 km/h on other roads. These default speed limits apply unless signs specify a different limit.

^d All states and territories have a consistent BAC limit of 0.05 g/dl for the general population.

^e All states and territories have zero BAC requirements for young, novice and professional drivers.

^f 2002–2006, Department of Infrastructure and Transport.

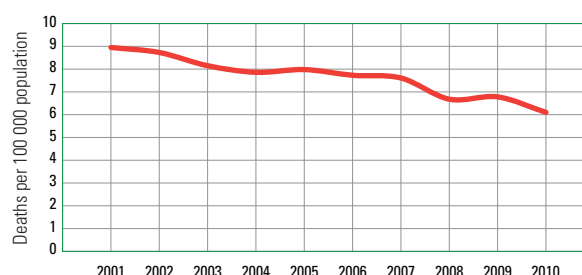
^g Motorcycle helmets are required in all jurisdictions, for drivers and adult and child passengers, on all roads and road related areas and with all engine types. Motorcycle helmets must comply with Australian Standard 1698.

^h 1997, Haworth, N, et al. Case-Control Study of Motorcycle Crashes, CR174.

ⁱ 2009, Petroulias, T. Community Attitudes to Road Safety: 2009 Survey report.

POST-CRASH CARE	
Vital registration system	Yes
Emergency Room based injury surveillance system	Yes
Emergency access telephone number(s)	000
Seriously injured transported by ambulance	≥75%
Permanently disabled due to road traffic crash	—
Emergency medicine training for doctors	Yes
Emergency medicine training for nurses	Yes

TRENDS IN ROAD TRAFFIC DEATHS



Source: Department of Infrastructure and Transport and Regional Economics (BITRE).

Further data on each country can be found in the statistical annex.