

The hidden epidemic – War on roads

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In 1801, when the first car came onto the streets, a man had to walk in front with a red flag warning about the arrival of imminent danger. Bridget Driscoll stepped off the kerb in London in 1896, and into history as the first person to be killed by a car in Britain.¹ At her inquest the coroner said that he hoped such a thing would never happen again. Though the exact number of road fatalities will never be known, the number is conservatively estimated to have reached 25 million by 1997.²

Global estimates

In 2002 nearly 1.2 million people died as a result of road traffic injuries.³ This represents an average of 3242 persons dying each day around the world from road traffic injuries. The vast majority of the deaths (90%) are in low-income and middle-income countries. Only 10% of the road traffic deaths occur in high-income countries.³ In addition, 50 million people globally are estimated to be injured or disabled each year.^{4,5} For complex reasons, society seems to accept a lower standard of safety from road use compared with other means of transport. While a daily airline crash equivalent to the Lockerbie air crash would cause international outrage, the carnage on the roads often goes without mention. The direct economic costs of global road crashes has been estimated at US\$ 518 billion, with the costs to low-income countries estimated at US\$ 65 billion – exceeding the total annual amount received in development assistance.⁴

Projections and trends

Currently, there are two main models for prediction of future trends in road traffic fatalities. The World Bank's

traffic fatalities and economic growth (TFEC) project⁶ is based on transport, population, and economic data. South Asia is predicted to record the largest growth in road traffic deaths, with a dramatic increase of 144%, from 2000 to 2020. The critical point at which the road death rates will begin to fall will not happen until 2049. The second model, the WHO global burden of disease (GBD) project, estimates that by 2020 road traffic injuries will become the second leading cause of disability adjusted life years lost in developing countries worldwide and the third leading cause in the developed world.⁵ Road traffic injuries will rise in rank to sixth place from eleventh place as a major cause of death worldwide. Road traffic deaths will increase to 2.34 million worldwide, increasing on average by over 80% in low-income and middle-income countries while declining by almost 30% in high-income countries.⁵ Today 1 person dies every 6 minutes on Indian roads; by 2020 that figure is projected to reach more than 1 every 3 minutes.⁶

The Haddon approach

The public health approach to road safety has resulted in a mix of countermeasures, and choices among them are driven by research on their effectiveness. These include measures aimed at improving vehicles, roads, and road user behaviour. A planning tool used to help identify the complete range of options is Haddon's matrix.⁷ Some 30 years ago, William Haddon approached road transport as an ill-designed man-machine interface requiring a comprehensive systemic treatment. He defined three phases of the time sequence of a crash event – pre-crash, crash, and post-crash – as well as the epidemiological triad of human, machine and environment that can interact during each phase of a crash. The resulting nine-cell Haddon matrix models a dynamic system, with each cell of the matrix allowing opportunities for intervention to reduce road crash injury.

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Recent evidence from America, Australia, and Europe shows that integrated strategic approach produces a marked decline in road deaths and serious injuries.⁸⁻¹⁰ The construction of multisectoral institutions dedicated to road safety and research, both in government and NGO, is the key to developing a national road safety reform,⁹ and can only be delivered by national and political commitment.¹¹

Different problems and new solutions

Recent studies have shown that pedestrians and motorcycles have the highest rates of injury in Asia.^{12,13} A review of 38 studies from developing countries found that pedestrian fatalities were highest in 75% of the studies, accounting for 41% to 75% of all fatalities.¹⁴ In India, in the cities and on rural highways, buses and trucks are involved in more than 50% of the crashes affecting pedestrians.¹⁵ In low-income countries, where the majority of pedestrian impacts are with buses and cars, one hospital-based study in New Delhi found that 16% of injured pedestrians had been struck by motorized two-wheelers.¹⁶ The high number of pedestrian and cyclist fatalities not only reflects their inherent vulnerability but also insufficient attention to their needs in policy-making.¹⁷⁻¹⁹

Use of crash helmets has been shown to reduce fatal and serious head injuries by 20% to 40% and to be the most successful approach for preventing injury among motorized two-wheeler riders.²⁰ Non-helmeted motorized two-wheelers are three times more likely to sustain head injuries in a crash than those wearing helmets.²¹

A study of crash victims admitted in a neurosurgery ward in New Delhi showed that riders who used any type of helmet with some protective padding benefited.²² Helmet use is very variable in some low-income countries and some special exemptions to certain religious groups, such as Sikhs also exist.

Almost all of the demonstrable gains produced by changing road user behaviour in high-income countries have resulted from traffic safety laws.²³ However, laws themselves are not sufficient, the key factor in the effectiveness of a traffic law is motorist perception that they have a high risk of detection and punishment for violation of the law. In countries like India where perceptions are that such laws are not likely to be enforced, level of helmet use is less.²⁴

Some of the solutions imported from high-income countries may not be as effective as in middle and low-income countries and will need to adapt to local traffic conditions. The disparate mix of road users sharing the same roads, will require traffic engineering measures that are different from those successful in high-income countries where traffic mix is more homogeneous.^{25, 26} Motorcycles and scooters dominate the roads in Asia and Africa and they share the road with bicycles, human powered vehicles, pedestrians carrying loads and animals like cows in India. The high-income countries did not experience such a heterogeneous mix even when they were rapidly motorizing. The most important part of Chinese and Indian road trauma epidemic is that it is just the beginning. In China, the number of road deaths, officially estimated to be around 50 000 a year is already close to those of US but there are only five vehicles per 1000 population compared with 770 vehicles per 1000 in the United States.^{27,28} China is predicted to have five million cars around the year 2000 and will be the largest car market in world by 2015. In India, the number of four-wheel motor vehicles increased by 23% to 4.5 million between 1990 and 1993, and by 2050 the number could rise to 267 million.²⁹

In middle and low-income countries there is poor access to health services for vulnerable groups. Pedestrians, cyclists, and passengers in minibuses and buses frequently belong to lower socio-economic groups.^{30,31} A study in Ghana showed that only 27% of people injured in road crashes used hospital services. Among patients with severe injuries, 60% of people injured in towns and cities, and 38% of people injured in the countryside received hospital care.³² A review from Indian Institute of Planning and Management (IIPM) on health care found that every year 2.2 million Indians are pushed below the poverty line because of health care spending. About 58% of people who are hospitalized either borrow money on high interest or sell off their assets to pay.³³

What individual health professional can achieve

Professionals working in trauma care and rehabilitation witness the human tragedy following road traffic injury and can be powerful advocates of prevention. In New Zealand in 1987, a group of four intensive care specialists decided to tackle the growing epidemic of road traffic injuries. At the time, victims of road traffic crashes

accounted for 30% of intensive care admissions and 40% of inpatient days in their Auckland based Intensive Care unit. Their prevention campaign had five objectives: to promote the use of the term crash rather than accident; to install motorway median barriers (which they identified as having potential to reduce injuries locally); to ensure appropriate child restraints; to analyse blood alcohol content of those injured in road crashes; and to advocate for a Ministry of Trauma Prevention. The campaign for median barriers on motorways was supported by the Newspapers, which organized a 16,000-signature petition that was later presented to Parliament. In 1998, the prime minister announced that all new motorways in New Zealand would be built with median barriers and that existing motorways would have them fitted.³⁴

The current UK limit of 0.8 g/l blood alcohols content is twice that identified as the point at which excess risk becomes significant.³⁵ Similarly, the public health impact of random breath testing, which has shown to reduce alcohol related crashes by 20% has yet to be realized in the UK, even though the BMA has campaigned for its implementation since the late 1980s.³⁴

Training for teams managing trauma care is vital. It is generally acknowledged that the Standard for such training in the high-income countries is the Advanced Trauma Life Support course of the American College of Surgeons.³⁶⁻³⁸ In Trinidad and Tobago, the introduction of the Advanced Trauma Life Support course for doctors and Pre-Hospital Trauma Life Support course for paramedics, together with improved emergency equipment led to improvements in trauma care and a decrease in trauma mortality, both in field and in hospitals.³⁷ The Essential Trauma Care Project is a collaborative effort between WHO and the International Society of Surgery that aims improve the planning and organization of trauma care worldwide³⁹ (a pdf version of Guidelines for Essential Trauma Care is available at <http://whqlibdoc.who.int/publications/2004/9241546409.pdf>). The Academy of Traumatology (India) along with International Association of Surgery for Trauma and Surgical Intensive Care (IATSIC) started the National Trauma Management Course (NTMC) for India (www.NTMC.com). International Trauma Care (ITACCS), previous known as International Trauma Anaesthesia Critical Care Society (ITACCS) has evolved as a leading international multidisciplinary soci-

ety dedicated to improving the care of trauma patients with publications of books, Journal, Clinical guidelines and Conferences. Its recent conference at Sydney had a Section on Trauma in developing nations. ITACCS (Indian chapter) recently held its 7th Annual Conference with 15 international experts and 1000 delegates at New Delhi.

Future directions

The recent WHO (with World Bank) report on road traffic prevention is a powerful challenge that no country can afford to ignore.³⁵ Its recommendations are comprehensive and clear. The most radical aspect of the report is its emphasis on systems approach to identify and rectify the major sources of error or design weakness that contribute to fatal crashes. It places more responsibility on architects of transport systems than blame on individual drivers and victims. The Royal Australasian College of Surgeons campaigned for Australian occupant restraint legislation in the early 70's.³⁴ It was first of its kind and provided the evidence for similar campaigns. In a philosophical way it is time to join in a campaign against our own extinction.

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Afghan War Casualty Report: March 2021. Nissan declared "Brexit is positive" for company as German exports to UK slump. Greece earthquake: Strong 5.6 magnitude rocks central Greece " latest. Mary Berry recipes: Chef's "simple" recipe for a "perfect" Victoria sponge cake The Hidden Epidemic on Travel's Front Line'. Welcome! Everything about bitcoin. Former road safety minister says that drug driving is now a 'hidden epidemic'. By Rebecca Camber Crime Correspondent For The Daily Mail. Published: 23:47 GMT, 25 October 2019 | Updated: 02:24 GMT, 26 October 2019. A spokesman for road safety charity Brake said: "These shocking figures reveal just how prevalent drug driving is on our roads. It is vital that both the law and our enforcement ability is effective in catching, punishing and deterring this dangerous behaviour. "The Government must prioritise the type-approval of roadside screening devices that can detect all banned drugs and step up roads policing levels to deter offending. In Southeast Asia, road traffic accidents are the most common cause of morbidity, mortality and disability. 2,3 Kasturba Hospital is the premier teaching hospital of Kasturba Medical College, Manipal, situated in the Udupi district of coastal Karnataka in southern India. It is one of the largest non-Government health-care institutions to be located in a rural area in South India. It is projected that on Indian roads, one person will die every three minutes in 2020. 3 The present research highlights the age-and gender-based variations in the pattern of road traffic fatalities in Man At the bottom of many of the health issues attributed to sleep loss lies a hidden epidemic of dream loss, according to a newly published review of data. The paper, by Rubin Naiman, PhD, a sleep and dream specialist at the University of Arizona... The dangers of sleep deprivation are pronounced on the roads. According to the American Academy of Sleep Medicine, one in every five serious motor vehicle injuries is related to driver fatigue, with 80,000 drivers falling asleep behind the wheel every day and 250,000 accidents every year related to sleep.