Road safety - threats and opportunities for poor countries

Olive C Kobusingye

Dr. Olive C Kobusingye, Regional Advisor, Disability/Injury Prevention and Rehabilitation
WHO/AFRO, Brazzaville

Chances are that everyone reading this will either have lost a close friend, relative, or work colleague in a road traffic crash in the last couple of years. Chances are, the reports said it was an "accident". There might even have been police reports giving the "cause of the accident." Now, think about the meaning of the word "accident" – most people would agree it is an unpredictable event, one for which you could not possibly have prepared – it just happened. Now, think again. Can we predict what will happen when a cyclist's unprotected head hits the concrete at 100 kms an hour? Can we predict what will happen when a powerful car races down a road a few meters away from the entrance of a primary school, just as the kids are leaving school? Can we predict what will happen when a *matatu* (commuter mini bus) driver gets behind the wheel at dusk, after a few bottles of alcohol, heading for a destination six hours away? And can we predict what will happen when a mosquito bites a baby, just after feeding on a person sick from malaria? Well – chances are, the first three scenarios will be called accidental, and the last one will be targeted for prevention! The truth is, all four are perfectly predictable, and preventable. The more than 3, 200 persons dying on the world's road every day have become predictable – we know they will happen, we know where they will happen, and what kind of people will be involved. Yet the majority of communities and governments still call them accidental, and make no concrete provision for their prevention.
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On April 7 2004, the WHO and its partners will commemorate World Health Day. This time round, the theme is "Road Safety is no Accident." Road traffic injuries are a huge public health and development problem that kills between 800 000 and 1.18 million people, and injures or disables another 20 to 50 million more every year[1]. Data from the WHO and World Bank show that without appropriate response, these injuries will rise dramatically by the year 2020, particularly in rapidly motorizing countries. In addition, apart from the enormous impact on families and communities, road traffic crashes are costing governments between 1 and 3 per cent of their gross domestic product[2] . Health facilities are over-burdened with victims of road traffic crashes, over-stretching their already meager health budgets.

Correspondence Author:
Dr. Olive C Kobusingye
Regional Advisor
Disability/Injury Prevention and Rehabilitation
WHO/AFRO, Brazzaville
Tel: +47-241-39371
Fax: +47-241-39514

Once we acknowledge that Road Safety does not happen by accident, (and that road safety is the state where we have "no accident") then we are well on the road to finding solutions. The systemic approach being recommended by the WHO moves from defining the burden of the road traffic injuries (size, nature) to understanding the factors that increase risk and vulnerability, to designing interventions, testing them for effectiveness, and finally, to getting the effective interventions implemented wherever they are needed.

So what needs to be done?

Certain approaches have been found effective in reducing the crashes, and the accompanying injuries and deaths on the roads. We do well not to ignore these lessons. Identify a single agency in government to lead the national road traffic safety effort. This agency needs to be able to make decisions, control resources, coordinate across different governmental sectors such as health, transport, education, and police, and be held accountable. Assess the road traffic injury problem in your country. Know the nature and size of the enemy! Who is being killed where, in what circumstances are the crashes happening? This information may be got from routinely collected data, such as hospital and police records, but it may require special effort and

methods. Many formats are in use, and needs vary from country – the WHO *Injury Surveillance Guidelines* offers some suggestions on how these data can be gathered[3].

Allocate financial and human resources to address the problem. The response to HIV/AIDS from global down to communities has shown that different sectors can come together to create an effective force – that no one agency or person can do this alone – and the response to the road traffic injury threat must be no less enthusiastic, no less focused, no less sustained. Prepare a national road safety strategy and plan of action. Implement specific actions to prevent road traffic crashes, minimize injuries and their consequences and evaluate the impact of these actions. These specific actions, or interventions, could include the following:

Helmets for every rider of a two wheeled vehicle – and for every trip, no matter how short. Helmets reduce the incidence of fatal head injuries by between 20-45%, as well as reducing the occurrence and severity of other injuries as well. They are so far the most successful intervention to preventing injury amongst motorcyclists[4]. As more Africans move from transport by foot to a motorized mode, the increase in numbers of motorcycles is likely to be exponential, so the need for helmets and their enabling laws will be even more urgent.

The reduction and control of speed on the roads. Examples abound of the reduction in road deaths, some as high as 24%, after lower speeds were enforced[5]. A recent example from Ghana[6] showed that speed control measures on a major highway reduced crashes by 35% and fatalities along this stretch by 55%. Likewise, there are examples of fairly sharp increases in road fatalities following modest increases of permitted speeds[7]. This is true for both occupants and other road users – for instance, pedestrians have a 90% chance of surviving car crashes at 30km/h or lower, but less than 50% of a chance of surviving impacts at 45 km/h or higher.

The consistent use of seat belts. The evidence has been around for a long time[8], that when properly used, seatbelts reduce the risk of serious and fatal injury by between 40-65%. The challenges for Africa are several – not all vehicles are fitted with belts; majority of people are moving either on foot, bicycles, or at the backs of pick-up tracks, and are practically out of the domain of seat belts, and laws are either lacking, or not being enforced.

The reduction and control of alcohol among road users, particularly drivers, riders, and those walking on the roads. Enhanced lighting works in various ways to reduce the occurrence of crashes – especially day time lights on cars and bikes, and increased visibility of pedestrians and cyclists.

The improvement of post crash care is a crucial component – especially inadequate in LMICs where pre-hospital care is not assured, and where often, those that make it to hospitals find unprepared, poorly equipped services. The choice of which interventions to focus on will vary from country to country. In low-income countries where the majority walk or use public transportation, and where the road environment is not supportive of these modes of transport, it may be more profitable, and equitable, to undertake changes on the environments to reduce risk for the most vulnerable. For instance, this might take precedence over a seat belt law enforcement that consumes resources, leaving little for the protection of those outside the vehicles. Helmets and increased visibility might likewise address a higher burden than interventions targeting vehicle occupants. These decisions will be made easier if relevant data are being collected and analyzed on a regular basis.

People in public health have until recently considered road safety the domain of transportation and law enforcement. Yet the understanding of the epidemiology of road traffic crashes uses the same tools as for other disease entities. The comparative advantage for the health sector is unquestionable – road traffic injury surveillance and epidemiology, monitoring and evaluating interventions, advocacy, and providing post crash care to those injured on the roads. No country, no matter how constrained in resources, should be complacent about road danger. If low-income countries aspire to develop, road safety is not an option – it is a must.

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