



# Health promotion activities in the area of road safety in Cameroon: linked to the action areas of the Ottawa charter for health promotion: a commentary



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### Abstract

About 1.3 million people die globally and about 24 million are injured as a result of road accidents. Over 90% of these road accidents occur in low- and middle-income countries, even though these countries account for only 48% of the world's registered vehicles. In Cameroon, only 45% of motorable roads are effectively maintained. These deficiencies in maintenance have left Cameroon's road network in relatively poor conditions. This poor condition of roads, coupled with other factors, could be a recipe for frequent road accidents, which is one of the leading causes of death. This paper commented on the road safety situation in Cameroon and recommended solutions based on the five key areas of the Ottawa charter for health promotion. The main problem with road safety in Cameroon is the enforcement of laws and regulations. The government should enforce policies on overloading, over-speeding, drink-driving, not wearing a helmet or seat-belt and vehicle road worthiness to curb frequent road accidents, create the enabling environment to enforce road safety, strengthen community action towards road safety, develop personal skills for drivers, the populace and law enforcement agencies to practice road safety and reorient the health services regarding road safety.

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## Commentary

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The annual urban population growth rate of developing countries stands at around 4%; growing at this rate, more than a half of the populations of the poorest nations will be living in cities by 2045 [1]. To meet this expansion, many countries in sub-Saharan Africa (SSA), including Cameroon are increasing the capacity of their road networks, but often at the expense of the safety of the vulnerable road users. Over 90% of RTAs occur in low- and middle-income countries, even though these countries account for only 48% of the world's registered vehicles [2]. Road accident victims in developing countries comprise motor vehicle occupants, pedestrians, motorcyclists and bicyclists [3]. Since the poor use the roads more often as pedestrians, bicyclists, motorcyclists, or as users of public transport, they are usually much more affected by road accidents. The effect of the young and productive population being killed or injured in road crashes has not only a huge impact on the economy, but also on the dependent families that they leave behind or burden once seriously injured. Various governments through their various agencies, the police, school administrations, civil society organizations, health care providers, the private sector and concerned citizens are all stakeholders in road safety [3]. Road maintenance activities are poorly planned and ineffective in Cameroon. Audit of road maintenance contract revealed that only 45% of motorable roads were effectively maintained [4]. These deficiencies in maintenance have left Cameroon's road network in relatively poor conditions. This poor condition of roads, coupled with other factors, could be a recipe for frequent road accidents, which is one of the leading causes of death [5].

### The situation of road safety in Cameroon

In Cameroon, there is a national road safety strategy in place, promoted by the ministry of transport and answerable to the prime minister and head of government, which is partially funded, but with no fatality reduction targets set [6]. The ministry of transport has been empowered to set and enforce safety standards, and legal instruments are in place to implement policies. The country has road safety strategies to stabilize and reduce road crash deaths, but the allocated financial and human resources for the implementation of these strategies are not sufficient [4, 6].

There are no policies to promote walking or cycling and no penalty point system in place for offenders [6]. However, there is a maximum speed limit of 60km/h in urban roads, a national drink-driving law, which empowers the police force to conduct random breath testing at checkpoints, a national motorcycle helmet law for riders and passengers, a national seatbelt law, but which does not apply to rear seat occupants, and a national law that prohibits mobile phone calls while driving [6]. However, these laws are poorly enforced, with the evidence of high rate of road accidents across the entire country [5].

Theoretical and practical training and testing are required for driver licensing, with driver training schools providing the trainings. However, there is no standard curriculum for training and testing of drivers. Road safety education for school children is not well established. Teachers are not trained to deliver road safety education in schools. Public campaigns are, however, regularly made targeting specific road users' group or road safety issues, which are often coordinated with enforcement [5].

Concerning vehicle safety standards, there are inspection, maintenance and road worthiness regulations in force,

mandatory periodic vehicle inspection and insurance regulations, which are enforced strictly. There is a rescue and emergency medical service system in place for road crash with emergency telephone numbers to enable quick interventions [3].

### **Public health outcome**

In Cameroon, there has been a sustained increase in the number of road traffic accidents over the years. Between 2007 and 2011, the trends in RTA were erratic with 15% increase of killed and 20% of injured in 2008 compared to 2007 and a 13-17% drop in 2009. In 2010 the fatality rate was 58 death/100 accidents, which was at least 10-fold higher than in most developed countries. In 2011, while the number of crashes markedly dropped by 47%, the fatality rate of recorded accidents increased by 40%. The most vulnerable road users (VRU) are pedestrians and 2-wheel users representing 27% and 35% of death respectively. In fact, 22% of the recorded accidents involve a car and a pedestrian [7]. In 2014, over 3088 cases of RTAs were reported, while in the first eight months of 2017, the number went up to an alarming 4,190 cases, in which 179 resulted to deaths, 784 resulted to personal injuries and 3227 resulted to property damage [8].

Concerning human causes, drivers were accountable for over speeding, risky overtaking, overloading of passengers and/or goods, driving under the influence of alcohol, unauthorized parking, non-respect of warning road signs and markings for vehicles in distress, use of phones while driving, lack of driving skills, overlapping of solid lines, just to name a few [8].

Owners of traveling agencies should also be held accountable for their notorious low salary payments, lack of social protection for drivers, lack of a planned driving roster

for these drivers and, in some cases, the clandestine nature of their activities. In terms of physical causes, they are directly related to the technical condition of vehicles mainly characterized by wearing tires, failure of braking systems, and the guilty complacency of agents in charge to inspect vehicles. Concerning the causes in terms of infrastructure, they generally have to do with the state of roads characterized by frequent potholes, visibility failure due to the covering of roadsides by trees and brushes, caused by the non-clearing of roadsides, the scarcity or lack of rest areas, the lack of equipment to pull stuck or abandoned vehicles on roadsides, poor road signs and establishment of unwanted speed breaks. In terms of environmental causes, we should indicate the aspects of rainfall and unclear weather, which significantly reduce the visibility of drivers. In terms of the percentage of the various causes of RTAs in 2017, 70% were due to human causes, 20% due to infrastructural causes and 10% due to technical causes [8].

### **Health promotion conceptual framework to prevent road traffic accidents**

Figure 1 provides a conceptual framework for the prevention of RTAs. It is based on the five key areas of the Ottawa Charter for health promotion [9]. The framework links planned actions from the five key areas to the expected health outcomes (sustained reduction in the number of road traffic accidents).

### **Recommendations based on the five key areas of the Ottawa charter for health promotion**

Health promotion is the process of enabling people to increase control over and to improve their health [9]. The Ottawa Charter for health promotion emphasizes five key areas to effectively promote health: building healthy public policy; creating a supportive environment; strengthening

community action; developing personal skills and re-orienting health services [9].

### ***Building healthy public policy***

The government should institute a legislation to permit fixed digital speed Cameras to operate on the nation's highways to monitor over-speeding of vehicles. The 60km/h urban speed limit is part of a nationwide strategy to reduce the incidence of injury and death on the roads [6]. Small reductions in vehicle speed can reduce the number of deaths and severity of injuries during road accidents. Overloading too is a serious issue to be considered in road safety. The government should institute and implement legislation against overloading of vehicles. Mandatory road safety courses should be developed to enable potential offenders to change their behavior and develop safer driving habits. Policy reforms concerning the requirements of progressing through driver training, including hazard perception test and driver qualification test should be instituted [10].

A comprehensive inspection, maintenance and roadworthiness system that requires close co-operation between vehicle roadworthiness inspection teams, trained vehicle mechanics and workshops (to guarantee vehicle repair according to safety standards) and traffic police (to enforce vehicle inspection) should be put in place. This system will also distinguish between private cars, heavy goods vehicles and public service vehicles. Due to their frequency of use, heavy goods and public service vehicles should be inspected more frequently than private cars. Good databases and certification can also help ensure better standards by making it easier for the police to check that vehicles have been inspected as required by law [10].

### ***Creating supportive environments***

Campaigns to make speeding and drink-driving socially unacceptable and to increase awareness of the police enforcement operation targeting young drivers should be encouraged and instituted in our communities. A sensor detector should be instituted in vehicles, which will be able to detect the speed limit and alert the driver. Also, upgrading existing roads and higher safety standards in new road construction to improve road safety, and construction of cycle ways to separate cyclists from other traffic are strongly recommended [10].

Improving traffic signs, improving road network, marking and delineation of bus, motorcycle or bicycle lanes, small construction measures, which can be integrated into road maintenance activities such as improvement of the road surface, are also recommended. The government should provide adequate road-crossing facilities, audio/tactile signals, and ramps for wheelchairs, prams and shopping trolleys to create a safer environment for pedestrians [10].

### ***Strengthening community actions***

There should be campaigns to raise awareness about the consequences of speeding and overloading and to change attitudes towards speeding and overloading, particularly among young male drivers, who remain the most at-risk group on the roads. The government should partner with community-based organizations to provide 'driver reviver' sites to combat driver-fatigue-related accidents [5].

### ***Developing personal skills***

There should be 'speeding campaigns' to deliver a straightforward message about the actual difference in stopping distances for a vehicle travelling at 60 km/h compared to one travelling at a higher velocity. A key issue in speeding-related crashes is the fact that most motorists

underestimate the distance needed to stop. There should also be “country-wide speeding campaigns” aimed at reducing speeding-related crashes by challenging the belief by drivers that being familiar with the road means you can drive above the speed limit and increasing drivers’ awareness of the dangers of speeding around bends [10].

Majority of our drivers are young; therefore, there should be campaigns that use advertisements in cinemas and magazines to specifically target young drivers. It should aim at increasing awareness of speeding as a significant killer of young drivers; making them to reflect on their risk-taking behavior, thereby encouraging them to modify their speeding habits. Introduction of the “Graduated Licensing Scheme” to increase novice drivers’ experience and to improve knowledge, driving ability and hazard perception is necessary. School education road safety programs for protection of children and development of long-term safe behaviors is of the essence [10].

### **Reorienting health services**

Efforts should be made by the government to educate the public and those commonly involved in the transport of casualties (such as taxi drivers) in the basic actions that could be taken to preserve life and to avoid further injury to accident victims by inappropriate handling. Local authorities and employers can support first aid training both for staff and the general public to equip them to handle accident cases. Provision of first aid stations close to locations on highways is a way of improving access to medical assistance for crash victims. By providing basic first aid training to police, fire services and other rescue personnel who are likely to attend to road crashes, victims will have a greater chance of survival.

The widespread use of mobile telephones, offers an opportunity to develop a system of fast access to the emergency service telephone numbers, which ideally operate throughout the country to enable quick interventions during road accidents. Many of the previously mentioned strategies and campaigns that increase road safety awareness also promote a preventative approach to road safety issues, thereby reorienting health services towards health promotion approach [10].

### **Conclusion and recommendations**

The main problem with road safety in Cameroon is the enforcement of laws and regulations. Firm and targeted enforcement of laws and legislation is necessary to the safe and efficient use of road. This could deter road users from committing traffic-related offences. To ensure safe road using behavior, the effective presence the police force, which is mandated to enforce the law if broken, is a primary means of ensuring safe road-user behavior. Critical aspects of behavior to be considered will include vehicle speeds and overloading, helmet and seat belt wearing, and drunk-driving. Civil society and advocacy groups should be involved in raising consciousness towards the consequences of drink-driving, speeding, overloading or not wearing a helmet or seat belt. Drinking-and-driving is one of the main causes of road crashes. Therefore, effective drinking-and-driving programmes could save thousands of lives. A large proportion of the deaths of people injured or killed while riding motor bikes or bicycles result from injuries to the head. Therefore, the use of helmets should be encouraged through advocacy programmes. Speed has been identified as a key risk factor in road traffic injuries, influencing both the risk of crash as well as the severity of the injuries. Therefore, speed reduction strategies should be implemented across the entire country [10]. There is the need for the following-up of trainees in driving schools, the securing and

computerization of the examination circuit to obtain a driving license, and the introduction of a new tool to strengthen the control of driving licenses [8].

The enforcement of traffic regulations aims to deter violations and thus ensure road safety, not to maximize the number of summonses issued. Therefore, police activities should primarily increase road users' perception of the likelihood of illegal behavior being detected, and of being penalized if they are caught. This can be achieved if the law is specific about its sanctions. Traffic law enforcement requires professional skills that are different from other types of police work; so, the appropriate training and reorientation of police officers is of the essence [10]. The introduction of speed camera technology is highly cost-effective if they are put in high-risk locations.

### Significance for public health

This paper will assist public health practitioners and other stakeholders in Cameroon to implement strategies to curb road accidents in the entire country because it is the first paper whose recommendations are based on the five key areas of the Ottawa charter for health promotion in enforcing road safety in Cameroon.

## Figure

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**Figure 1:** conceptual framework to prevent road traffic accidents

## Competing interests

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The authors declare no competing interests.

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Figure 1: conceptual framework to prevent road traffic accidents