

# A Public Health Initiative to Address Road Traffic Accidents in the Kurdistan Region of Iraq

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## Abstract

The human and financial toll from road traffic accidents in the Kurdistan region of Iraq is high. In a small population of 5.2 million, there are currently three fatalities and 28 injuries daily. According to local authorities, many factors contribute to this problem. Speeding, failure to wear seat belts, and aggressive road behavior are among the principal causes. The local public health system is working to reduce deaths and injuries from road traffic accidents, a problem common not just to the Kurdistan region but throughout the Eastern Mediterranean region. This article identifies factors associated with road accidents in Kurdistan specifically but also throughout the wider region, and encourages the development and implementation of preventive initiatives to decrease RTAs in the region.

**Key words:** Road safety campaigns, World Health Organization, behavior change.

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## Introduction

The Decade of Action for Road Safety (2011-2020), (1) a resolution of the United Nations General Assembly, was formulated with the goal of first stabilizing and then reducing road traffic casualties globally. In the Kurdistan Region of Iraq at present the human and financial toll of road traffic accidents (RTAs) is high and, in some locations, trending upward. For example, in 2012, there were on average two deaths and 17 injuries for every RTA in the region (2). Currently the daily average is three deaths and 28 injuries per RTA (3). In other words, more than 1,000 preventable deaths and 10,000 injuries are occurring annually. In 2012 there were 567 deaths and 3,141 injuries while in 2016, 614 lives were lost and 7,724 were injured from the 4,268 road traffic accidents [Table 1] (4,5). Thus, between 2012 and 2016 there was an 8% increase in deaths from traffic accidents and a 145% increase in injuries. This suggests that health personnel may be preventing deaths from traffic accidents while overall accidents and injuries are increasing.

Table 1 (next page) suggests that deaths in Erbil and Sulaimaniya are decreasing while deaths in Dohuk are increasing. In addition, injuries have been reduced substantially in Erbil but have increased dramatically in both Sulaimaniya and Dohuk.

**Table 1: Deaths and injuries from RTAs in the three provinces of the Kurdistan Region of Iraq: 2012 and 2016 (4, 5).**

Province	Deaths		Injured	
	2012	2016	2012	2016
Erbil	216	215	1441	1191
Sulaimaniya	242	206	1155	2808
Dohuk	109	194	545	3725 *
<b>Total</b>	<b>567</b>	<b>615</b>	<b>3141</b>	<b>7724</b>

[\*The increase in deaths and injuries in Dohuk might be attributed to the large number of displaced people from Syria and Mosul being re-located in the province and also to the increase in traffic from Turkey due to the increase in cross-border trade and transportation.]

In a study on road traffic fatalities in Iraq from 2010 to 2013, which included Erbil and Sulaimaniya in the Kurdish region, both governorates had the highest fatalities when compared with other locations in Iraq (6). Fatalities were high among children, adolescents and young adults. In Erbil, the capital of the Kurdish region, RTAs were the second major cause of death (7). These estimates are very high especially when under-reporting is common throughout in the region (8).

Many factors contribute to the current situation. After the war in Iraq in 2003, the Kurdish region witnessed rapid economic growth reflected in an increased number of cars travelling on the major roads, from 200 to 500 per day in 2003 to 5,000 to 8,000 per day in 2013 (9). This rapid motorization combined with reckless behaviors, largely by young drivers, has made the highways “death roads,” as described by the local population. As Sabey and Taylor report, drivers are responsible for 65-77% of all road crashes (10). According to local traffic police, aggressive road behavior by young drivers, who are less than 33 years old and predominantly male, is one of the principal causes of fatalities and injuries (2). A study by medical students in Erbil identified several risky driving behaviors exhibited by younger drivers; these include speeding, failure to use seat belts and texting/calling while driving (11). These findings suggest that the behavior of drivers is the principal cause of accidents and that an effective road safety education program is urgently needed.

While excessively aggressive driving, sometimes termed ‘road rage,’ has been identified as a factor in road deaths and injuries in Kurdistan, the problem is considered common throughout the Middle East and North African (MENA) region (12). Countries like Oman, Saudi Arabia, Iran and other countries are aware of this condition. The literature on road deaths and injuries suggests that deaths have a profound psychological impact on the families of the deceased and on a large proportion of survivors (13). Many suffer from post-traumatic stress disorder, major depressive disorders, anxiety disorders, as well as grief, panic and bereavement.

Given the decreasing number of deaths from RTAs, it may be that the public health system in the region is working effectively to reduce fatalities from road accidents

but having only modest success in preventing RTAs from occurring and in rehabilitating the survivors of the accidents. It is suggested, therefore, that the development and implementation of effective preventive initiatives and comprehensive rehabilitation services are critical.

At present there are few public health initiatives, like road safety campaigns, in place to inform the public and to mitigate the injuries and trauma caused by RTAs in the Kurdistan Region of Iraq and throughout the region. Road safety campaigns are defined as “purposeful attempts to inform, persuade, and motivate a population (or sub-group of a population) to change its attitudes and/or behaviors to improve road safety, using organized communications involving specific media channels within a given time period” (14).

Adopting behavior change strategies is of considerable interest to road safety professionals because it (is) or (may be) one of the most cost-effective interventions to address RTAs (14). A main purpose of these campaigns is to convince people to abstain from hazardous behaviors and to adopt safe practices. According to current research, behavior can be influenced by delivering well-designed and well-implemented road safety campaigns based on a solid theoretical foundation (15). A well designed campaign takes into account an analysis of local data on road accidents and their outcomes, a more detailed analysis/understanding of why people are engaging in excessively aggressive driving behavior, and developing and implementing a campaign of messaging to change behavior (15). According to Neil Fleming’s VAK (visual, auditory, kinesthetic) model, individuals learn new information and change behaviors depending on how the information is delivered and promoted (16). Successful campaigns include various resources and materials that reach and influence the behaviors of that segment of the population most likely to engage in aggressive driving (15). Evidence suggests that effective evidence-based behavior change campaigns should contain four phases: research/design, production, dissemination and evaluation (17).

There are many resources that can be adapted and used to design and implement these campaigns in the Kurdistan Region of Iraq and throughout the region. The online library of road safety mass media campaigns was produced to

**Table 2: strategies to achieve immediate, intermediate and long-term results in road safety in the Kurdistan Region of Iraq and other counties in the region are listed below:**

Strategies expected to produce results in 18 months
<ul style="list-style-type: none"> <li>• Start road safety campaigns through an illustrative and animated website in local language</li> </ul>
<ul style="list-style-type: none"> <li>• Create cost effective, accessible and easy to comprehend multimedia materials in local language</li> </ul>
<ul style="list-style-type: none"> <li>• Reinforce road safety messages especially during the time of religious and cultural feasts and events</li> </ul>
<ul style="list-style-type: none"> <li>• Create and put in public places resources like stickers, and posters on road safety in local language</li> </ul>
Strategies expected to produce results in 36 months
<ul style="list-style-type: none"> <li>• Train local authorities and NGO staff in proper public health and road safety education</li> </ul>
<ul style="list-style-type: none"> <li>• Reach out to local remote communities through local community (NGOs) to deliver road safety messages and education</li> </ul>
<ul style="list-style-type: none"> <li>• Develop and implement school education curriculum in all schools and academic institutions</li> </ul>
<ul style="list-style-type: none"> <li>• Create a core action/working groups of community members, volunteers, public health professionals to address the barriers to decreasing RTAs</li> </ul>
Strategies expected to produce results in 60 months
<ul style="list-style-type: none"> <li>• Improve surveillance, data collection and reporting methods</li> </ul>
<ul style="list-style-type: none"> <li>• Establish a program in high-school education focusing on the preparation of young adults for safe driving</li> </ul>
<ul style="list-style-type: none"> <li>• Start partnerships and coalitions with public- and private-sector organizations able to share knowledge and resources to address this problem more efficiently</li> </ul>
<ul style="list-style-type: none"> <li>• Engage concerned policy and decision makers to foster political commitment and enhance leadership</li> </ul>
<ul style="list-style-type: none"> <li>• Measure and evaluate all interventions to determine whether activities are implemented as planned and identify program strengths, weaknesses, and areas for improvement.</li> </ul>

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inspire, and save time and money for governments and concerned actors willing to develop their own mass media campaigns. This library has materials from the best campaigns from around the world. These campaigns reflect high-quality productions with clear and targeted messages to promote good road safety practices as identified by WHO and others.

In addition, there is an urgent need to implement road safety education on a wide scale in the Kurdistan Region of Iraq and throughout the wider region. Road safety education is “the totality of measures, which aim at positively influencing traffic behavior patterns” (18). This education program has three pillars - promotion of knowledge and understanding

of traffic rules and situations, improvement of skills through training and experience, and strengthening and/or changing attitudes towards risk awareness, personal safety and the safety of other road users.

High death tolls and injuries can be cut sharply if these campaigns are implemented effectively. But behavior change initiatives alone will achieve only modest results and cannot be sustained unless coupled with other measures such as improving roads, law enforcement and driving training (19,20).

There is an urgent need to promote preventive measures and complementary strategies. Some steps have been taken by the Kurdish authorities, like mandatory training

and tests before issuing driver licenses, periodic car inspections, and enforcing speed limit in the urban areas. However, these measures are not enough, and many challenges remain (5). Local authorities and NGOs should identify and adopt approaches and interventions that have proven effective in preventing and reducing road traffic casualties especially among youth. The Global Road Safety Program in Turkey and the Zusha sticker intervention in Kenya, which contributed to improvements in road safety, are examples of such interventions (21,22).

Table 2 (previous page) summarizes strategies to enhance road safety education in the Kurdistan Region of Iraq and other countries in the region. Road safety campaigns utilizing social media to improve road user's behavior and decrease casualties should be considered one of the main initiatives. It is well known that social media - Facebook, YouTube, Twitter and the use of mobile phones - is growing in popularity across the region and is especially popular among youth. Research conducted by the Broadcasting Board of Governors (BBG) and Gallup on media consumption in Iraq reported that 72% of homes in the Kurdistan region of Iraq use the internet and mobile phones to access news and that these media are especially frequented by young adults (23). The success of social media campaigns like the "Embrace Life" YouTube campaign in the United Kingdom, which attracted world-wide acclaim for its content and delivery, is the case in point of the effective use of social media to improve road safety (24). The effectiveness and efficiency of these campaigns could be assessed in Kurdistan before extending these approaches throughout the region. The ultimate success of these campaigns should be measured in terms of reductions in fatalities and RTA rates, and increases in "good", safe behavior/s (25). In addition, the differences in the functional effectiveness of the various social media types should be assessed at the same time to determine which might be most effective in changing behavior and reducing traffic accidents.

Investment in public awareness especially among the youth will increase awareness about the importance of road safety in the region. Failure to seize opportunities to stop this carnage will cost more lives.

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