

Viewpoint

# Road traffic accidents in Pakistan: unveiling the emergency service challenge

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## Extract

We address the critical issue of road traffic accidents (RTAs) that significantly impact global mortality and morbidity. Annually, RTAs cause nearly 1.35 million deaths worldwide, making them one of the top ten leading causes of death, exceeding rates of tuberculosis and diarrheal diseases. In Pakistan, the situation is particularly dire due to its vast population and extensive road network. The increasing number of vehicles combined with rapid urbanization intensifies RTA occurrences. Inadequate enforcement of traffic laws leads to high-risk driving behaviors. Most victims are young adults, with motorcyclists, cyclists, and pedestrians being the most vulnerable groups. This highlights a pressing need for comprehensive reforms to enhance road safety practices, improve emergency response systems, and implement effective public health education to mitigate the devastating impact of RTAs.

## Keywords

Traffic accidents; Emergency medical services; Pakistan; Public health; Vulnerable populations

We are writing to offer our viewpoint on a critical issue that affects millions of lives globally: road traffic accidents (RTAs). These accidents not only result in significant mortality and morbidity but also contribute to a decline in the overall quality of life (QoL) for individuals and communities. RTAs seriously impact individuals, communities, and the overall economy [1]. Globally, RTAs cause nearly 1.35 million deaths annually, making them among the top ten leading causes of death, surpassing tuberculosis and diarrheal diseases [2]. Most young people between 15 and 29 years of age become victims of RTAs, resulting in a loss of life [2,3]. In addition, 20 to 50 million people suffer nonfatal injuries. According to a report, motorcyclists, cyclists, and pedestrians are among the most vulnerable road users, contributing to more than half of road traffic deaths and injuries worldwide [4]. Although RTAs are a worldwide concern, they disproportionately burden developing countries, where poor infrastructure, inadequate traffic law enforcement, substandard vehicles, and limited health services further compound the problem [5].

In developing nations such as Pakistan, the impact of RTAs is particularly alarming [6]. With a population exceeding 211 million, Pakistan is the fifth most populous country in the world, and its road network extends to approximately 262,256 kilometers [7]. However, the increasing volume of registered vehicles, now surpassing 19 million, alongside rapid urbanization, is straining the road infrastructure and contributing to the occurrence of RTAs. Despite efforts to implement traffic laws and regulations, enforcement remains inadequate, leading to prevalent high-risk driving behaviors on roads [8]. A local study from Pakistan revealed that young people aged between 15 and 29 years are at high

risk of being victims of accidents and subsequently losing their lives [9]. Additionally, motorcyclists, cyclists, and pedestrians are identified as the most vulnerable road users, accounting for the majority of nonfatal injuries reported. Approximately 65% of RTAs were attributed to human errors or factors, including the fact that the majority of crash victims were not wearing helmets (88%) and did not hold a valid driver's license (87%) at the time of the accident [9].

In Pakistan, the responsiveness to RTAs is often limited due to a variety of systemic challenges, including poor road safety practices, inadequate law enforcement, and delays in onsite ambulance services, which collectively hinder timely medical assistance [10,11,12,13]. The general public also lacks training on how to handle accidents and injuries effectively [12,13]. Once victims reach medical facilities, they encounter administrative delays and the limited capacity of healthcare services, which impedes efficient care delivery [14,15]. Additionally, subpar standards of postemergency care and follow-up worsen the long-term consequences of RTAs [16]. These challenges, coupled with a highly skewed distribution of healthcare resources that sees major cities with better-equipped hospitals and emergency care facilities, contrast sharply with rural and remote regions where there is a lack of access to specialized medical services [17,18]. This inequitable distribution further exacerbates the burden of RTAs on vulnerable populations in less-developed regions, where timely access to healthcare is limited. The significant disconnect between policy and its implementation underscores the need for comprehensive reforms to enhance the overall emergency response system in Pakistan [19].

Another concern is the lack of specialized training for healthcare professionals in handling RTA emergencies. Many healthcare providers are ill equipped to manage the complex poly-trauma cases often seen in RTAs, requiring a multidisciplinary approach involving specialties such as general surgery, orthopedics, maxillofacial surgery, internal medicine, psychiatry, rehabilitative medicine, urology, dentistry, and neurosurgery. Additionally, there is a lack of public education and awareness about emergency response and first aid, further contributing to preventable deaths at accident scenes [20].

To effectively address the complex challenges of RTAs in Pakistan, a unified approach involving policymakers, healthcare professionals, traffic authorities, media, educators, and the transportation industry is essential. Policymakers need to focus on training healthcare providers in RTA emergencies and developing well-equipped emergency departments nationwide. Investments are crucial in upgrading infrastructure and medical equipment and providing specialized training. National highway authorities should improve road infrastructure, implement effective traffic management systems, and maintain regular vehicle safety checks to prevent accidents. The media plays a key role in enhancing road safety awareness through public service announcements and educational campaigns. Educational institutions must integrate road safety education and basic first aid training from an early age to foster responsible behavior and enable effective emergency responses. Additionally, the transportation industry should meet strict safety standards, promote advanced safety features in vehicles, and collaborate on safer road designs.

In conclusion, the burden of RTAs in Pakistan demands urgent attention and necessitates a holistic and collaborative approach from various sectors and stakeholders to be effectively addressed. Essential components of a comprehensive strategy include improved accident and emergency services, including ambulance services, enhanced road infrastructure, stringent traffic law enforcement, public education, and the adoption of responsible practices. By prioritizing the safety and well-being of its citizens, Pakistan can significantly reduce the devastating impact of RTAs and make progress toward safer roads and healthier communities.

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