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## Road traffic and other unintentional injuries among travelers to developing countries

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### Synopsis

Injuries result in nearly 6 million deaths and incur 52 million disability-adjusted life years annually, comprising 15% of the global disease burden. More than 90% of this burden occurs in low- and middle-income countries (LMICs). Given this burden, it's not unexpected that injuries are the leading cause of death among travelers to LMICs, namely from road traffic crashes and drowning. Opportunely, the majority of injuries are preventable. Therefore, pre-travel advice

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regarding foreseeable dangers and how to avoid them may significantly mitigate injury risk, such as: wearing seatbelts, helmets and personal flotation devices when appropriate; responsibly consuming alcohol; and closely supervising children. Upon return, travelers to LMICs are in a unique position; having shared injury risks while abroad, travelers can advocate for injury control initiatives that might make the world safer for travelers and local populations alike.

## Keywords

road traffic injuries; drowning; burn; fall; unintentional injury; injury prevention; travel medicine; advocacy

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## Introduction

Injuries result in nearly 6 million deaths and incur 52 million disability-adjusted life years annually, comprising 15% of the global disease burden.<sup>2</sup> More than 90% of this burden occurs in low- and middle-income countries (LMICs) where injury control capacity and initiatives are lacking.<sup>3</sup> When trauma services do exist, they are often insufficiently resourced and unavailable to the majority of the injured.<sup>4</sup> Consequently, treatable injuries frequently result in avertable death or disability.<sup>5</sup>

Injuries are the leading cause of death among travelers.<sup>6</sup> Travelers are 10 times more likely to die from injury while abroad than infection, which account for <2% of traveler deaths.<sup>7</sup> Of traveler unintentional injuries, road traffic crashes account for 57% of deaths, followed by drowning (25%), aviation crashes (7%), other causes (e.g. falls, burns; 6%), and natural disasters (4%) (Figure 1).<sup>8</sup>

Despite high injury risk, pre-travel advice has concentrated on communicable and vaccine-preventable diseases, such as malaria, typhoid and diarrhea.<sup>9</sup> However, among individuals aged 15 – 49 in LMICs (i.e. same age cohort as 65% high-income country travelers), road traffic injuries (RTIs) alone are responsible for more deaths than these three diseases combined (Figure 2).<sup>8, 10</sup> A survey of travel medicine clinics worldwide found that 99% offered advice on infections; only 70% discussed ‘personal safety.’<sup>11</sup> Fortunately, nearly two-thirds of injuries are preventable.<sup>12, 13</sup> Therefore, pre-travel advice regarding foreseeable dangers and how to avoid them may significantly mitigate injury risk.<sup>14</sup> Pre-travel consultations are incomplete without specific injury prevention advice.<sup>12</sup>

This article discusses the epidemiology, risk and pre-travel advice regarding road traffic injuries and drowning. Other causes of traveler injury, such as aviation crashes, falls, burns, and those associated with adventure activities are also mentioned.<sup>6</sup> Upon return, travelers to LMICs are in a unique position; having been exposed to injury risks abroad, travelers can advocate for injury control initiatives that might make the world safer for travelers and local populations alike. Therefore, potentially useful advice for the returning traveler, as well as the travel medicine provider, regarding injury control advocacy is offered.

## Road traffic injuries

### Epidemiology

More than 1.2 million people are killed on the world's roads each year.<sup>15</sup> Road traffic crashes were the 8<sup>th</sup> leading cause of death in 2010; by 2030, they are expected to be the 5<sup>th</sup>.<sup>16</sup> However, for those aged 15 – 44, road traffic crashes are the leading cause of death.<sup>1, 2</sup> Eighty percent of road traffic deaths occur in middle-income countries, where rapid urbanization and motorization is taking place.<sup>16</sup>

For each death, another 20–50 persons are injured, some of which suffer permanent disability.<sup>15, 17</sup> Without momentous global action, by 2020, RTIs are forecasted to be the third largest global disease burden.<sup>15</sup>

### Differences in RTIs between high-income and LMICs

In addition to the large road traffic burden in LMICs compared to high-income countries (HICs), several notable epidemiological differences exist. In HICs, the most common road user killed by a road traffic crash is a car occupant, comprising nearly 60% of road traffic fatalities.<sup>16</sup> In contrast, most vehicle occupant deaths in LMICs are passengers of minibuses, trucks and other public service vehicles.<sup>18</sup> Pedestrians constitute 22% of road traffic deaths globally, ranging from 10 to 66% of national road fatalities.<sup>16</sup> In LMICs, almost 70% of road deaths are vulnerable road users (i.e. pedestrians, motorists of 2-3 wheeled vehicles, bicyclists; VRUs), compared to 40% in HICs.<sup>16</sup> This differential risk has consequences not only for health, but also for social inclusion of people cannot afford vehicular transport.<sup>19</sup>

### Road safety in LMICs

Road safety depends on five factors: political support, funding and effective policies; safe roads; safe vehicles; safe road users; and timely, effective post-crash care.<sup>16</sup> The WHO Global Status Report on Road Safety 2013 described road safety using this framework.<sup>16</sup> Particularly informative differences are described.

Only 7% of the world's population, most of which in HICs, is protected by a funded, comprehensive road safety strategy. Consequently, road infrastructure is lacking and less maintained in LMICs than HICs. Safety structures (e.g. guardrails, shoulders, streetlights) are often not planned for, placed or maintained. While vehicle standards may be improving in LMICs, many vehicles remain less crashworthy compared to those in HICs (i.e. older vehicle age; minimum safety regulations for imported vehicles; lack of seatbelts, airbags, and/or crumple zones). Lights, windshield wipers and tires are often not replaced when needed. Nearly all minibuses and trucks that carry passengers in LMICs are not engineered to minimize the risk of passenger injury during a crash.

Well established strategies to prevent pedestrian RTIs are poorly implemented worldwide, particularly in LMICs.<sup>16</sup> Road safety priorities and urban design neglect VRUs or fail to consider different risks for vehicle occupants and VRUs.<sup>20</sup> Further, drivers often do not respect VRUs and VRUs often do not respect or know road safety signals.<sup>21</sup>

Poor enforcement and road user noncompliance limit the effectiveness of road safety policies. Only 26 of the world's 196 countries (13%) reported 'good' speeding enforcement (8 or above on a scale from 0 to 10). Motorcyclist and/or bicyclist helmet use is poorly enforced by two-thirds of countries. Helmet standards are rarely incorporated into helmet laws. Drink-driving laws do not protect 34% of the world's population. In Accra, Ghana's capital, 21% of randomly selected drivers had a blood alcohol concentration higher than 80mg/dL.<sup>22</sup> This is markedly higher than similar studies from Denmark (0.4%) and France (3.4%).<sup>23</sup> Additionally, 4% of bus drivers and 8% of truck drivers in Accra had blood alcohol concentrations of 80mg/dL.<sup>22</sup> Seatbelt, child restraints and mobile phone use while driving laws are particularly lacking and/or under-enforced in LMICs.

The majority of RTI victims in LMICs do not have access to pre-hospital care. Good Samaritans and commercial drivers are the *de facto* ambulances in LMICs.<sup>24</sup> Resultantly, around 80% of injured patients in LMICs die before reaching a hospital, even in urban centers, compared to 21% in Seattle, USA.<sup>25</sup> Hospitals often have critical deficiencies in resources necessary to provide essential trauma care.<sup>4</sup> Further, less than 55% of emergency care providers in Africa and Southeast Asia have had specific trauma care training.<sup>16</sup> Resultantly, injury for injury, victims in LMICs are at greater risk of death and disability than victims in HICs.<sup>25</sup>

### RTI risk among travelers

Travelers to LMICs are at twice the risk of RTI than their counterparts at home and more vulnerable than local populations.<sup>9, 10</sup> In Bermuda, travelers were nearly 6 times more likely to sustain a motorcycle injury than Bermudians.<sup>26</sup> A regional hospital in Greece reported that only 15% of injuries were due to road traffic among Greeks; among travelers to Greece, 40% of injuries were road traffic-related.<sup>27</sup>

The effect of driving on different sides of the road on RTI risk is poorly understood. Studies suggest that travelers from countries that drive on the opposite side of the road than the country they traveled to are more likely to be injured than those that drive on the same side of the road.<sup>27, 28</sup> RTI risk is not unique to tourists; business travelers are at higher risk as well. World Bank Group employees reported 1 road traffic crash per 175 trips.<sup>29</sup>

### Pre-travel advice on RTIs

Despite these risks, much can be done to prevent RTIs in LMICs (Table 1).<sup>30</sup> Most of the recommendations should be practiced no matter the location; some are particularly important and are described here.

Seatbelts and child safety seats reduce serious RTIs by 40 – 70%.<sup>31, 32</sup> All possible efforts should be made to ride in vehicles with seatbelts and use them. Riding as a backseat passenger is safer than riding in a front seat, particularly when the vehicle lacks airbags.<sup>33</sup> Child safety seats and booster seats are rarely available in LMICs.<sup>16</sup> Travelers should bring them if traveling with children.

Road crashes are nearly three times more common during rain, at night or during national holidays.<sup>34, 35</sup> Thus, travelers should be advised not to travel in a vehicle at night, especially

on undivided high-speed interurban or rural roads or during conditions that limit visibility or traction (e.g. fog, rain, snow). If travelers are planning to drive, they should familiarize themselves with local laws, rent a vehicle with seatbelts and airbags, and pay particular attention to local driving hazards, namely driving on the opposite side of the road than accustomed. Signage might be different or in a foreign language; travelers should familiarize themselves with common signage at their destination prior to departure to avoid injury, putting others at risk and/or breaking laws.

Motorcycles or mopeds should be avoided at all costs. This advice should be stressed to travelers planning motorcycle use without significant experience operating these vehicles at their home. If a traveler must ride a 2-wheeled vehicle, a helmet should be worn. Helmets reduce the risk of death among motorcyclists 42% in HICs with developed healthcare systems; the impact of helmet use among crash victims that don't have access to timely and effective trauma care is unknown, but likely much greater.<sup>36</sup> Helmets that meet international safety standards are often not available in LMICs. If 2-wheeled travel is planned, travelers should be instructed to bring their helmet with them and wear it.

Alcohol use increases the risk of all causes of injury, particularly RTIs.<sup>9</sup> Travelers should not drive after consuming alcohol or ride with someone who has. Minibuses, trucks and buses are often over-crowded, over-weight and over-speed, which makes them prone to horrific crashes with high fatality and injury rates; thus, they should be avoided.<sup>37</sup>

Lastly, travelers will likely be pedestrians during their trip. They should take particular caution when crossing roads and look both ways beforehand, paying particular attention to the side of the road drivers use; cross-walks should be sought and used when crossing streets if available. Walking roadside should be discouraged, particularly at night. Travelers planning to drive should be cognizant of VRUs and the risk they pose to them.

The effect of pre-travel injury prevention advice on RTIs has not been studied. However, these simple risk avoidance recommendations are likely to reduce RTIs amongst this high-risk group.

## **Drowning**

### **Epidemiology**

Around 350,000 deaths and more than 20 million disability-adjusted life years are incurred from drowning annually.<sup>1</sup> Ninety-seven percent of this burden occurs in LMICs.<sup>38</sup>

Drowning affects predominately young children in most regions regardless of national income.<sup>1, 38</sup>

### **Drowning risk among travelers**

Drowning is responsible for 25% of injury deaths among US travelers and is the leading cause of death among travelers to Fiji, The Bahamas, Jamaica, Costa Rica and other areas where water recreation is a major activity.<sup>6, 8</sup> As with RTIs, travelers are three times more likely to drown abroad than they are at home.<sup>10</sup>

The greatest risk factor for child drowning in HICs and LMICs is a lack of supervision.<sup>39</sup> In LMICs, lack of supervision is complex and related to caring for a number of children, poverty and increased maternal age.<sup>40</sup> Among travelers, lack of supervision is related to inattention to potential water hazards, distractions and insufficient planning.<sup>38</sup> Other risk factors for LMIC populations include travel on unsafe or overcrowded watercraft and use of small boats for subsistence fishing.<sup>41</sup> Among travelers, unfamiliarity with local water conditions, alcohol use and inability to swim are significant factors.<sup>42</sup>

### **Pre-travel advice on drowning**

Drowning is highly preventable; should it occur, medical treatment has little effect on the outcome.<sup>43</sup> Therefore, primary prevention is particularly important.<sup>38</sup> Pre-travel advice should focus on risk reduction specific to the travel destination and planned activities. PFD use and pool, open water and boat safety should be discussed. Important points are listed in Table 2.

### **Other unintentional causes of traveler injury**

Aviation crashes, falls, burns, and injuries from adventure activities cause traveler deaths each year.<sup>6</sup> Like other causes of unintentional injury, many of these can be prevented. Specific risks and ways to avoid them are given in Table 3.

### **Opportunity for advocacy**

The preceding part of this article is oriented towards the need to sensitize travelers to the significant injury risks they face while abroad and to offer advice on risk reduction behaviors. Upon return, travelers have shared risks with local populations. Therefore, they can be important advocates for the promotion of safety for everyone, everywhere.

In LMICs, injury control initiatives are often considered low priority by policymakers who must choose between competing issues.<sup>44</sup> Injury control is often neglected by policymakers because it is under-resourced, requires a stance to be taken against industry, and often impeded by political giants (e.g. alcohol industry, firearm lobby).<sup>45</sup> To remove some of these barriers, the social value of injury control must improve and policymakers must be educated on the significant return on investment provided by injury control initiatives.

In order to heighten social awareness and educate policymakers about the burden of injury and cost-effectiveness of its control, many stakeholders need to be involved.<sup>45</sup> Potentially important stakeholders include: individuals and groups of citizens, non-governmental organizations; industry; and governments. However, any group that campaigns for injury control and can positively influence social or political opinion should be included in advocacy efforts.<sup>45, 46</sup> Advocacy can include the use of local or mass media (e.g. flyers, newspaper editorials, radio shows), social media, direct political lobbying, and/or community mobilization through coalition of interest groups.<sup>45</sup> Successful examples of advocacy groups that started from a single or small group of individuals that have had a positive impact on injury control include Stop for Kids, Mothers Against Drunk Driving

(MADD) and the Brain Injury Association of America (BIAA).<sup>45, 47, 48</sup> Examples that include LMIC populations are few despite the greater burden they face.

Travel medicine providers also have a unique opportunity to advocate for injury control. Their understanding of the evidence-base and position in society give their voice particular weight.<sup>49</sup> Many examples of physician-led advocacy groups that caused a significant national or international improvement in injury control exist (e.g. Physicians for Human Rights, International Campaign to Ban Landmines and Doctors Against Handgun Injury).<sup>50–53</sup> Physician-led unintentional injury control campaigns are less publicized.

Key messages that travelers and travel medicine providers might share during advocacy efforts include (Figure 3):

- i. 90% of the near 6 million injury deaths annually occur in developing countries; 1 in 5 of these deaths is a child;<sup>2, 54</sup>
- ii. Two-thirds of injuries are preventable;<sup>12, 13</sup>
- iii. Families of the injured are frequently forced into poverty due to medical costs or lost wages, placing them at higher injury risk and creating an injury-poverty cycle;<sup>55–57</sup>
- iv. Road injury alone costs the world more than 500 billion dollars annually; some countries lose more on injury than they spend on healthcare;<sup>56, 58</sup> and
- v. Injury control is as cost-effective as HIV/AIDS treatment and vaccination.<sup>59, 60</sup>

In summary, advocacy is a way for travelers to make a difference in LMICs that lasts long after their trip and for travel medicine providers to contribute to patient and population health more broadly.

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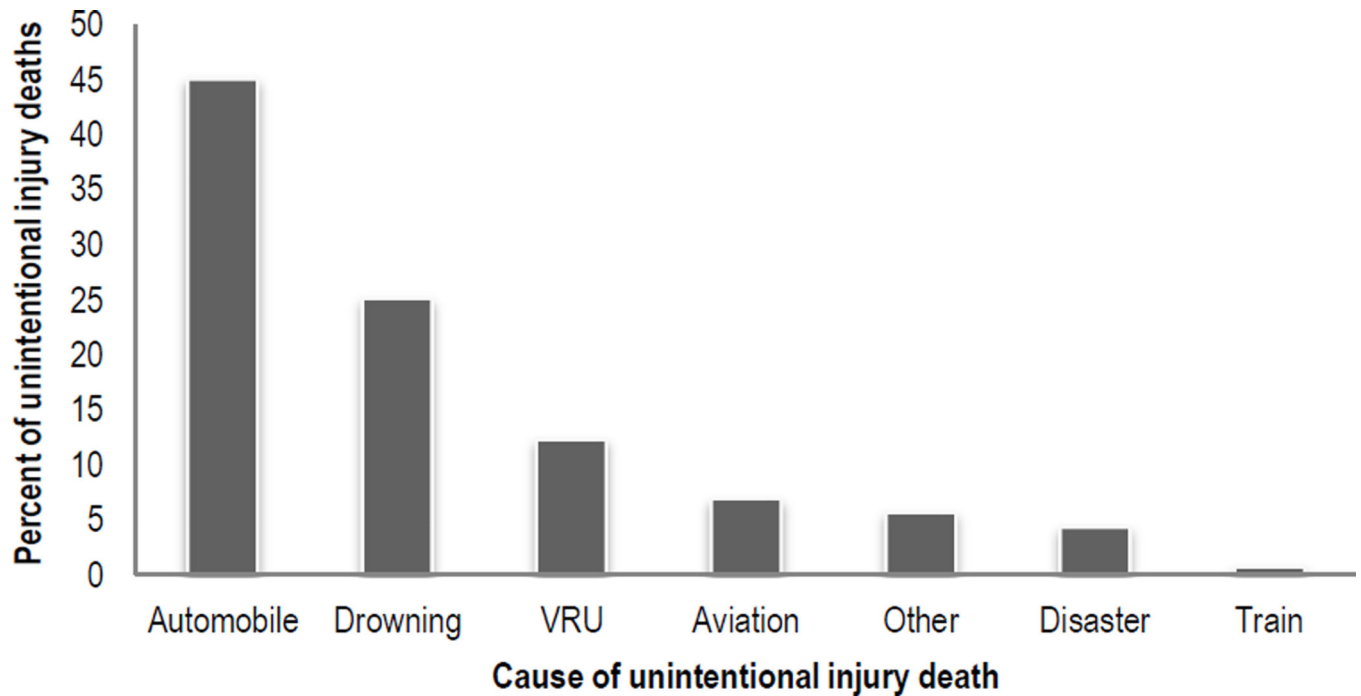


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**Key points**

1. Road traffic crashes are the most common cause of traveler death.
2. Travelers can protect themselves and set an example by: always wearing a seatbelt, never driving after consuming alcohol, and wearing a helmet when riding a motorcycle, moped or bicycle.
3. Drowning is the most common cause of death among travelers to water recreation destinations.
4. Closely supervising children, wearing a personal flotation device, and practicing pool, open water and boat safety can lower drowning risk.
5. Advocacy is a way for travelers to make a difference that lasts long after their trip and for travel medicine providers to contribute to patient and population health more broadly.

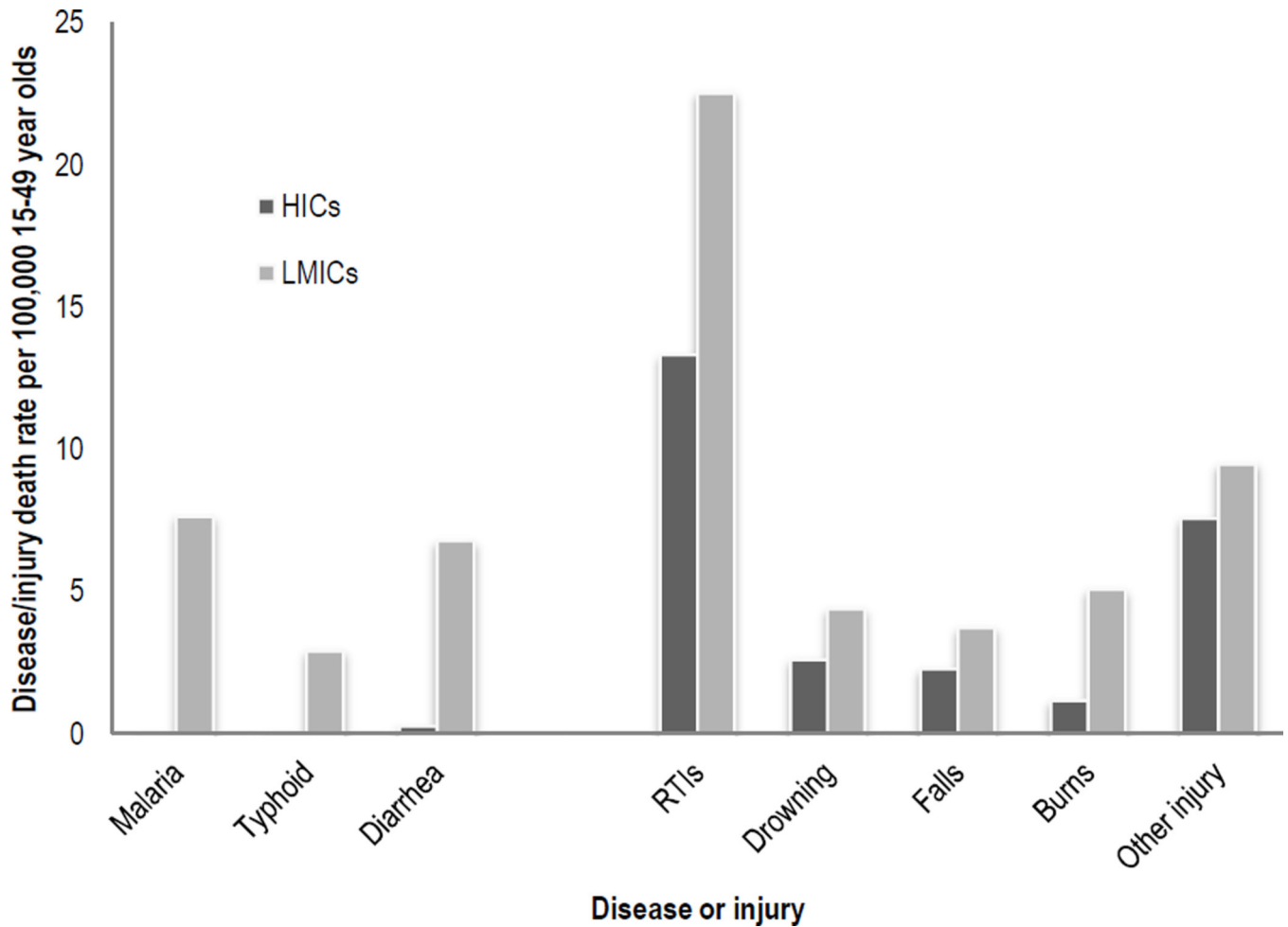


**Figure 1.**

Percent of unintentional injury deaths by mechanism for United States travelers from 2003 to 2014 (N=4,479).

Unintentional injuries exclude homicide, suicide, and terrorism; VRU – vulnerable road user (i.e. pedestrians, drivers and riders of motorized 2–3 wheeled vehicles, bicyclists).

*Data from* United States Department of State - Bureau of Consular Affairs. U.S. Citizen Deaths Overseas. Available at: <http://travel.state.gov/content/travel/english/statistics/deaths.html>. Accessed Jul 28 2015.



**Figure 2.**

Death rate per 100,000 15–49 year olds for selected diseases and injuries in high-income and low- and middle-income countries.

HICs – high-income countries; LMICs – low- and middle-income countries; RTIs – road traffic injuries; Other injury includes mechanical forces, non-road traffic transport injuries (e.g. aviation crashes), animal contact.

Age 15–49 years was selected since it represents the same age cohort as 65% of high-income country travelers.

Data from Institute of Health Metrics and Evaluation. GBD Cause Patterns. Available at: <http://vizhub.healthdata.org/gbd-cause-patterns/>. Accessed May 27 2015.



90% of the near 6 million injury deaths annually occur in developing countries; 1 in 5 of these deaths is a child.



Two-thirds of injuries are preventable.



Families of the injured are frequently forced into poverty due to medical costs and lost wages, placing them at higher injury risk and creating an injury-poverty cycle.



Road injury alone costs the world more than 500 billion dollars annually; some countries lose more on injury than they spend on healthcare.



Injury control is as cost-effective as HIV/AIDS treatment and vaccination.

**Figure 3.**  
Key points for injury control advocacy at home and abroad.

**Table 1**

Road traffic injury risks and recommendations to avoid them for travelers from high-income countries going to low- and middle-income countries.

<b>Risk</b>	<b>Recommendations to avoid risk</b>
Lack of seatbelts, child safety seats and airbags	<ul style="list-style-type: none"> <li>▪ Select vehicles with seatbelts and wear them</li> <li>▪ If traveling with children, bring a child safety seat or booster seat</li> <li>▪ Ride as a back passenger when able</li> <li>▪ Rent vehicles with airbags if given the option</li> </ul>
Travel when visibility or traction is limited is particularly dangerous, compounded by infrequent maintenance on vehicle components (e.g. lights, brakes, windshield wipers)	<ul style="list-style-type: none"> <li>▪ Avoid traveling at night or in the fog, rain or snow</li> <li>▪ Avoid riding on overcrowded and overweight vehicles (e.g. minibuses, trucks), particularly in these conditions, which have a difficult time avoiding sudden hazards</li> </ul>
Lack of signage or signage in a foreign language	<ul style="list-style-type: none"> <li>▪ Drive with vigilance and caution</li> <li>▪ Do not react aggressively to other drivers' errors</li> <li>▪ Learn common signage prior to travel to avoid injury, putting others at risk or breaking laws</li> </ul>
<ul style="list-style-type: none"> <li>▪ Operating or riding 2–3 wheeled vehicles is high-risk, as is being a bicyclist</li> <li>▪ Helmets are often unavailable</li> </ul>	<ul style="list-style-type: none"> <li>▪ Avoid travel on 2–3 wheeled vehicles if at all possible</li> <li>▪ If planning to operate or ride a 2–3 wheeled vehicle or bicycle, bring a properly fitting and approved helmet</li> </ul>
Alcohol use significantly increases the risk of RTI	<ul style="list-style-type: none"> <li>▪ Do not drive after consuming alcohol</li> <li>▪ Designate a driver before consuming alcohol</li> </ul>
Pedestrians are often the most common road user injured in LMICs	<ul style="list-style-type: none"> <li>▪ Take particular caution when crossing roads and look both ways no matter the direction of traffic</li> <li>▪ Seek and use cross-walks if available when crossing streets</li> <li>▪ Avoid walking along the roadside, particularly during times of limited visibility (e.g. fog, night)</li> <li>▪ If driving, be especially cognizant of pedestrians and the risk you pose to them</li> </ul>
Lack of emergency care	<ul style="list-style-type: none"> <li>▪ Know the emergency access telephone number for the area(s) being traveled</li> <li>▪ Have a means of communication should injury occur</li> <li>▪ Create an emergency plan before traveling at the destination</li> </ul>

**Table 2**

Drowning risks and recommendations to avoid them for travelers from high-income countries going to low- and middle-income countries.

<b>Risk</b>	<b>Recommendations to avoid risk</b>
Lack of personal flotation devices (PFDs) or PFDs that meet safety standards and fit properly	<ul style="list-style-type: none"> <li>▪ Bring appropriate PFD when planning water activities</li> <li>▪ PFDs should be worn by:               <ul style="list-style-type: none"> <li>○ All children under 13 years;</li> <li>○ Anyone who cannot swim;</li> <li>○ By those participating in towed activities (e.g. water skiing)</li> <li>○ Operators and riders of personal watercraft;</li> <li>○ Sail or kite boarders;</li> <li>○ Those on a vessel that is less than 26 feet in length, including under paddle-power; and</li> <li>○ Other situations.<sup>38</sup></li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ Pool safety is not prioritized</li> <li>▪ Pool depths and markings may be absent</li> <li>▪ Potentially missing drain covers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Feet first entry for every body of water</li> <li>▪ Inspect pools and spas prior to relaxing</li> </ul>
<ul style="list-style-type: none"> <li>▪ Lack of lifeguards</li> <li>▪ Ability for children to access bodies of water unattended</li> </ul>	<ul style="list-style-type: none"> <li>▪ All children should be supervised by an adult who has not consumed alcohol at all times</li> <li>▪ Delegate adult child supervision prior to water activities</li> <li>▪ Prefer to stay in accommodations that have lifeguards, as well as a climb-resistant fence with a self-closing and self-locking gate if a pool is present</li> <li>▪ Ensure that staff do not permit children to bodies of water</li> </ul>
Unfamiliarity with local water conditions, poor swimming ability, absence of lifeguards, and presence of rip currents make open water swimming particularly high-risk	<ul style="list-style-type: none"> <li>▪ Discuss conditions with local swimmers</li> <li>▪ Use the buddy system</li> </ul>
Alcohol use significantly increases drowning risk	Do not operate or ride in a watercraft, swim or supervise children after consuming alcohol
Scuba diving is often unregulated and occasionally does not require certification to participate	<ul style="list-style-type: none"> <li>▪ Scuba dive only if certified by an accepted international organization</li> <li>▪ Ensure good health prior to diving</li> <li>▪ Check and be familiar with the dive center's gear</li> <li>▪ Use a diver-down flag</li> <li>▪ Use the buddy system</li> </ul>
Operating or riding in a watercraft that is unfamiliar	<ul style="list-style-type: none"> <li>▪ Avoid potentially dangerous watercraft (e.g. overcrowded boats, undersized for conditions)</li> <li>▪ Identify locations of PFDs and fire extinguishers prior to departing</li> <li>▪ Do not underestimate the importance of boat safety courses, navigation rules, and the potential for dangerous weather or water conditions</li> </ul>
Lack of emergency care	<ul style="list-style-type: none"> <li>▪ Travelers should be competent in CPR (cardiopulmonary resuscitation)</li> <li>▪ Know the emergency access telephone number for the area(s) being traveled</li> <li>▪ Have a means of communication should injury occur</li> </ul>



Risk	Recommendations to avoid risk
	<ul style="list-style-type: none"><li>▪ Have an emergency plan</li></ul>

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**Table 3**

Other injury risks and recommendations to avoid them for travelers from high-income countries going to low- and middle-income countries.

Topic	Risk	Recommendations to avoid risk
Aviation crash	<ul style="list-style-type: none"> <li>▪ Aviation crashes most commonly involve small aircraft and developing country flights are at higher risk</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fly only on scheduled flights</li> <li>▪ Avoid small aircraft, particularly at night or during inclement weather</li> </ul>
Fall	<ul style="list-style-type: none"> <li>▪ Infrastructure not fitted for elderly safety</li> <li>▪ Open gutters, lack of guardrails, uneven stair depths, unmarked ground hazards</li> <li>▪ Child curiosity and growing sense of independence</li> <li>▪ Alcohol use significantly increases fall risk</li> </ul>	<ul style="list-style-type: none"> <li>▪ Consider bringing mobility aid (e.g. hiking poles, cane, walker)</li> <li>▪ Maintain vigilance when walking, going upstairs or when at height</li> <li>▪ Closely supervise children</li> <li>▪ Responsibly consume alcohol</li> <li>▪ Delegate child supervision prior to consuming alcohol</li> </ul>
Burn	<ul style="list-style-type: none"> <li>▪ Lack of building codes or code enforcement</li> <li>▪ Lack of building codes or code enforcement</li> <li>▪ Lack of emergency access telephone numbers and formal fire services</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stay on lower levels of accommodations to make escape or rescue easier should a fire occur</li> <li>▪ Identify at least two escape routes from the accommodation</li> <li>▪ Stay in accommodations with smoke detectors, fire alarms and sprinklers if possible</li> <li>▪ Bring smoke detector</li> </ul>
Adventure activity	<ul style="list-style-type: none"> <li>▪ Adventure activities are often run by businesses without regulation or safety standards</li> <li>▪ Communication networks often not available in areas of adventure activities</li> <li>▪ Lack of pre-hospital and trauma care, particularly in remote areas</li> </ul>	<ul style="list-style-type: none"> <li>▪ Be mindful of significantly increased risk of injuries with these activities</li> <li>▪ Bring safety gear that meet international standards (e.g. helmets, harnesses)</li> <li>▪ Know the emergency access telephone number for the area(s) being traveled</li> <li>▪ Have a means of communication should injury occur; have an emergency plan</li> </ul>