



SECTION 1

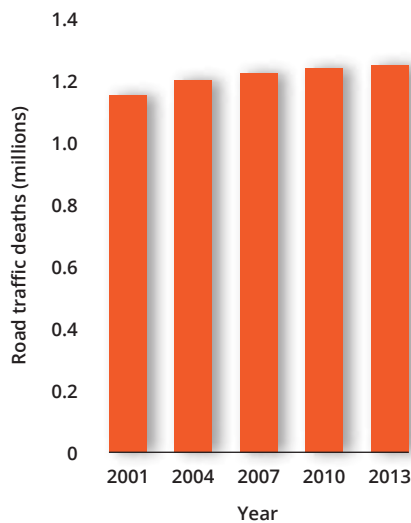
THE CURRENT STATE OF GLOBAL ROAD SAFETY

The number of road traffic deaths has plateaued since 2007

The plateau in road traffic deaths, set against a 4% increase in global population and 16% increase in motorization, suggests that road safety efforts over the past 3 years have saved lives.

There were 1.25 million road traffic deaths globally in 2013 – a figure that has plateaued since 2007 (see Figure 2).

FIGURE 2
Number of road traffic deaths, worldwide, 2013



This plateau must be seen against the backdrop of global population growth and motorization. The population increase of 4% between 2010 and 2013 and an increase of 16% in registered vehicles over the same period suggest that efforts to slow the increase in road traffic deaths may have prevented deaths that would otherwise have occurred.

But while the levelling out of road traffic deaths in a context of rising motorization is encouraging, there are still no signs of an actual decline, which is essential if the Decade of Action and Sustainable Development Goal targets are to be realized (see Box 1). This suggests that while progress is possible, much more attention, political will and resources are needed.



BOX 1

Road safety in the Sustainable Development Goals

In September 2015 the United Nations launched the 2030 Agenda for Sustainable Development – the development framework that replaces and builds on the achievements of the Millennium Development Goals. Road safety was absent from the Millennium Development Goals but road safety targets have been integrated into the new 2030 Agenda.

The 17 Sustainable Development Goals (SDGs) and their 169 targets are intended to balance the economic, social and environmental dimensions of sustainable development, and stimulate action over the next 15 years in these critical areas. They include two targets that relate to road safety, one in SDG 3 (on health), and one in SDG 11 (on transport for sustainable cities).

The SDG 3 target is far more demanding than the 2020 goal set for the UN Decade of Action for Road Safety (to “stabilize and reduce” road deaths by 2020). Although the document qualifies that these global targets may be modified at country level “with each government setting its own national targets guided by the global level of ambition but taking into account national circumstances”.

Inclusion of such an ambitious road traffic target in the SDGs is a significant advance for road safety. It acknowledges that there is a strong scientific base around what works, as evidenced through the success of a number of countries in reducing the burden of road traffic deaths. It also recognizes the importance of this issue to broader global health and development, and the need for countries and the international community to prioritize action towards achieving results even before the end of the SDG period.

See <http://www.globalgoals.org/>

SUSTAINABLE DEVELOPMENT GOAL 3

Ensure healthy lives and promote well-being for all at all ages:

3.6. By 2020, halve the number of global deaths and injuries from road traffic accidents.

SUSTAINABLE DEVELOPMENT GOAL 11

Make cities and human settlements inclusive, safe, resilient and sustainable:

11.2. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

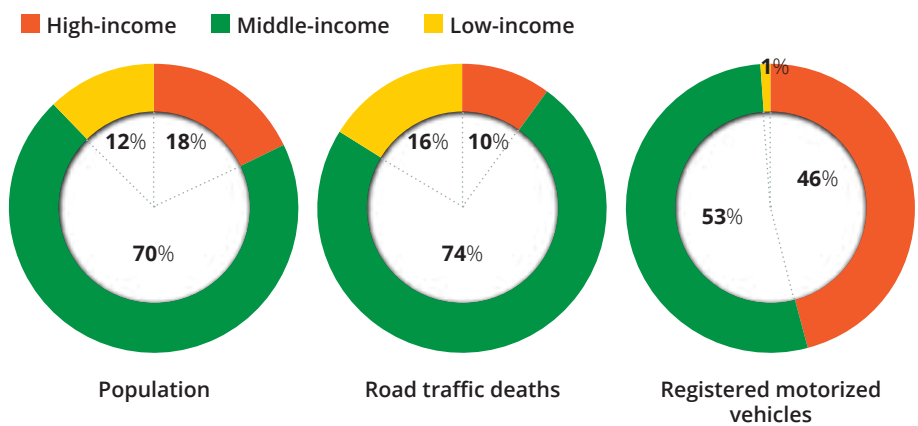
Low- and middle-income countries bear a disproportionate burden of road traffic deaths

Road traffic death rates in low- and middle-income countries are more than double those in high-income countries.

Ninety-percent of road traffic deaths occur in low- and middle-income countries, and while these countries also account for 82% of the world's population, they nevertheless bear a

disproportionate number of deaths relative to their level of motorization, as they account for only 54% of the world's registered vehicles (see Figure 3).

FIGURE 3
Population, road traffic deaths and registered motorized vehicles^a, by country income status



^a Population relates to 2013, see Explanatory Note 1. Registered vehicle data provided only for countries participating in the survey.



The risk of dying in a road crash remains highest in low- and middle-income countries

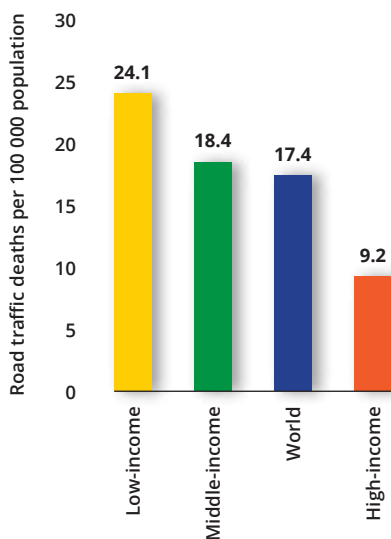
While absolute numbers of deaths are important in terms of seeing where road traffic deaths are occurring and being able to target efforts to prevent them, a more useful indicator is to compare the risk of dying as the result of a road traffic crash using rates per 100 000 population. While the global rate for road traffic deaths is 17.4 per 100 000, there is great disparity by income, with rates more than twice as high in low- and middle-income

countries than in the world's high-income countries (see Figure 4).

This report shows that 68 countries have seen a rise in the number of road traffic deaths since 2010, of which 84% are low- or middle-income countries. Seventy-nine countries have seen a decrease in the absolute number of deaths, of which 56% are low- and middle-income (see Figure 5).

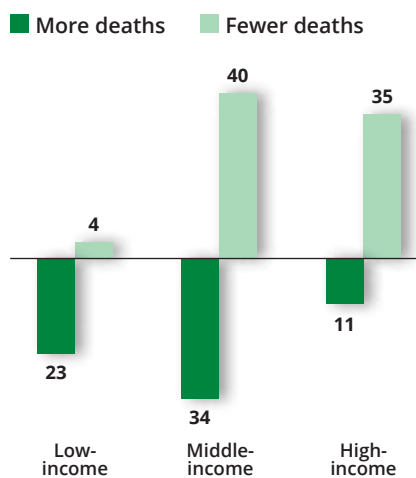
68 countries have seen a rise in road traffic deaths since 2010, while 79 have seen a decrease.

FIGURE 4
Road traffic deaths per 100 000 population, by country income status^a



^a Country income status was determined based on data from the World Development Indicators database, World Bank, March 2015 (see <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD/countries>). Data relate to 2013, whereby low-income = ≤ US\$ 1045 per capita; middle-income = US\$ 1046 to US\$ 12 745; high income = ≥ US\$ 12 746.

FIGURE 5
Countries showing changes in the number of road traffic deaths, 2010–2013, by country income status^a



^a These data represent countries that have seen more than a 2% change in their number of deaths since 2010, and excludes countries with populations under 200 000. Data shown are for 48 out of 52 participating high-income countries, 86 out of 98 middle-income countries, and all 30 participating low-income countries.

The risk of a road traffic death is highest in the African Region

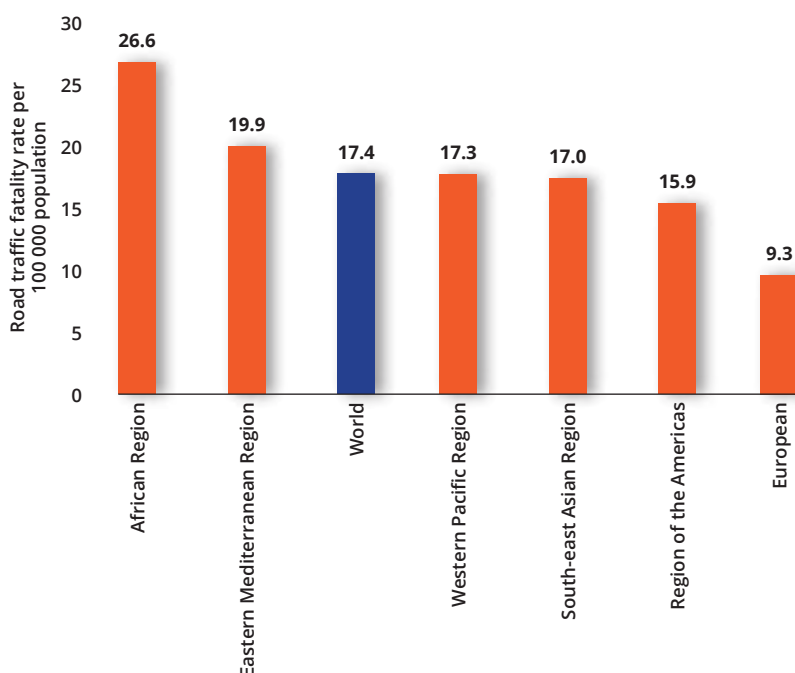
The Eastern Mediterranean Region is the only region where high-income countries have a higher road traffic death rate than low- or middle-income countries.

The risk of a road traffic death varies significantly by region, and there has been little change in the regional rates of death since 2010. The highest rates are still in the African Region, while the European Region has a rate far below the global average (9.3 per 100 000 population, relative to the global rate of 17.4, see Figure 6).

However, there continues to be a large disparity in rates within particular regions. For example, rates in some of the high-income countries in the Western Pacific Region (such as Australia) are among the lowest in the world, while some of the region's middle-income countries have rates high above the global average at 24 per 100 000. Similarly, while high-income countries generally have lower rates than low- and middle-income countries, high-income countries in the Eastern Mediterranean Region

have a *higher* rate than those of their less-affluent neighbours in the region (22.4 compared to 19.7) and more than double the average rate of high-income countries globally (9.2). This suggests that in some of the more affluent Eastern Mediterranean countries, rapid economic development that has resulted in increased motorization and road infrastructure construction has not been accompanied by sufficient investment in institutional capacity, nor in the interventions needed to cope with these changes and ensure that roads are safe. Section 2 of this report examines the extent to which interventions on key risk factors are adopted in different regions, while Section 3 considers the adoption of vehicle standards and infrastructure audits, all of which play an important role in determining overall road traffic fatality rates.

FIGURE 6
Road traffic fatality rates per 100 000 population, by WHO region





Road traffic deaths among pedestrians, cyclists and motorcyclists are intolerably high

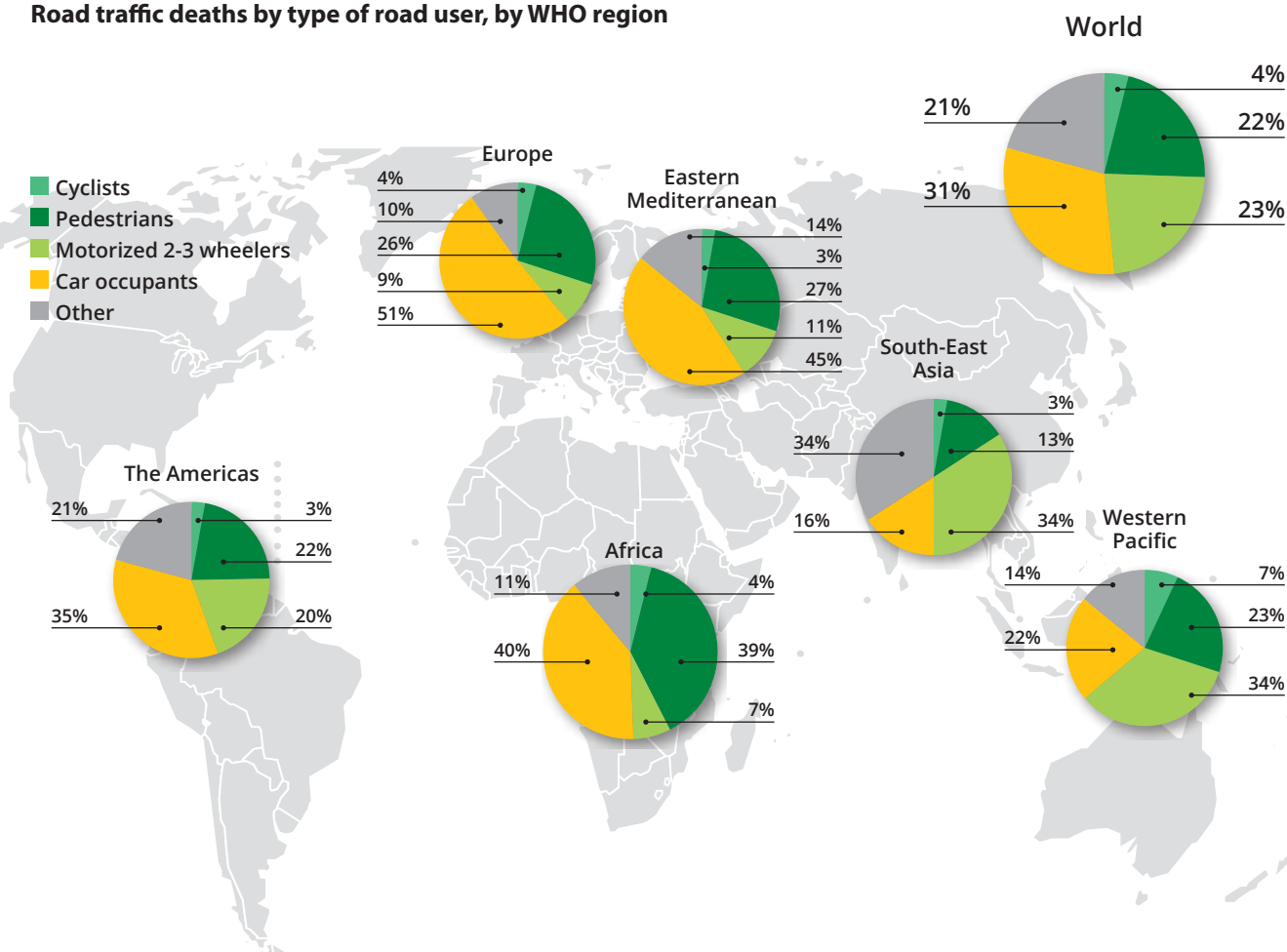
More than half of countries (92) report policies to increase walking and cycling, compared to 68 in 2010.

Almost half of all deaths on the world's roads are among those with the least protection – motorcyclists, cyclists¹ and pedestrians. However, the likelihood of dying on the road as a motorcyclist, cyclist or pedestrian varies by region: the African Region has the highest proportion of pedestrian and cyclist deaths at 43% of all road traffic deaths, while these rates are relatively low in the

South-East Asia Region (see Figure 7). This partly reflects the level of safety measures in place to protect different road users and the predominant forms of mobility in the different regions – for example, walking and cycling are important forms of mobility in the African Region, while in the South-East Asia Region and the Western Pacific Region, motorcycles are frequently used as the family vehicle.

¹ The term cyclist refers to users of two- or three-wheeled pedal cycles, but does not include those riding motorcycles or E-bikes.

FIGURE 7
Road traffic deaths by type of road user, by WHO region



More attention must be given to the needs of pedestrians and cyclists

Making walking and cycling safer is critical to reducing the number of road traffic deaths and is important for achieving the Decade of Action for Road Safety's aim to promote non-motorized forms of transport. During this assessment, 92 countries reported having policies to increase walking and cycling (see Section 3). This indicates progress relative to the 68 countries reporting such policies in 2010. And if public health is to be improved by encouraging forms of travel involving physical activity, making walking and cycling safer needs to be given special attention.

Motorcyclist safety must be prioritized too

Globally, nearly a quarter of all road traffic deaths are among motorcyclists. However, this too is disproportionately distributed across the world, with the South-East Asian Region and Western Pacific Region each accounting for 34% of the world's motorcyclist deaths,

compared to the African Region which account for 7%. This reflects the continuing situation whereby the use of motorcycles is much higher in Asian countries than elsewhere. Data from this report show that the proportion of motorcyclist deaths is largely unchanged since 2010 in all regions, except in the Region of the Americas: here the proportion of motorcycle deaths has increased from 15% to 20% of the total road traffic deaths over the 3-year period between 2010 and 2013, reflecting rapid growth in the number of motorcycles in the region's fleet. While this report found no change in the proportion of deaths among motorcyclists in the African Region, this may be due to the fact that only 15 of the 43 participating African countries provided data on deaths by type of road user. However, at country level, many African nations report a rise in motorcycle use of motorcycles and this shift is beginning to be reflected where data are available. Tanzania, for example, has seen motorcycles rise from 46% to 54% of its registered fleet in the last three years, and motorcycle deaths rise from 13% to 22% of its total number of road traffic deaths.

In the Region of the Americas, the proportion of motorcycle deaths rose from 15% to 20% of the total road traffic deaths between 2010 and 2013.





Greater progress in harmonizing data on road traffic deaths is needed

Data on road traffic fatalities are not robust in many countries

Data on road traffic fatalities are essential for monitoring country-level trends, tailoring prevention efforts, assessing progress and comparing the scale of road traffic deaths relative to deaths from other causes (10).

Vital registration data fulfil these needs best as they are a record of all officially registered deaths and are not time-limited. For example, a person who dies from injury complications 18 months after a road traffic crash will have a death certificate showing the road traffic injury as the contributing cause of death, and will be coded accordingly. However, not all countries have vital registration systems that provide cause of death information: in 2009, only 34 countries produced high-quality cause-of-death data, 85 countries produced lower quality data and 74 countries produced none (11).

Where countries do not have vital registration data of good quality,

police data is often a reliable source of information on road traffic fatalities. However, countries still have no consistent definition of a road traffic death for use in police databases; research for this report reveals that 100 countries now use a 30-day definition for their official road traffic fatality data – representing progress since 2010 when only 92 countries applied this definition to their fatality data¹. And while greater consistency such as this is a step in the right direction, the 30-day definition means that those dying of their injuries after 30 days are not necessarily recorded as road traffic fatalities in police databases.

Linking data sources (i.e. vital registration records, police data, insurance data, etc.) can improve official road traffic fatality estimates, but this process is not widely adopted. Only 25 countries report the use of combined (health and transport) data for their official fatality numbers.

¹ This means that in most countries, police will follow up on the outcome of a crash for a month, but someone who dies as a result of a road traffic crash beyond this time period will not be counted as a road traffic fatality in police databases.

BOX 2

WHO estimates deaths: vital registration data versus police and other data

Many countries regularly submit vital registration data to WHO on all causes of death (usually annually). This survey asked countries to provide WHO with their official road traffic data. For some countries this meant that WHO had two estimates of road traffic deaths from one country (vital registration estimates, and estimates from police, transport ministries or other sources). In general, vital registration estimates are higher.

Where vital registration data were considered complete, these figures were used to generate a fatality estimate as indicated in the country profiles and Table A2. However, in countries not submitting regular vital registration data, estimates provided from this survey were subject to a mathematical estimation process (see Explanatory Note 3). In such cases the point estimate is shown with a 95% confidence interval.



Data on non-fatal injuries

For every person that dies in a road traffic crash there are at least 20 others that sustain non-fatal injuries (2). These injuries can have considerable impact on quality of life, and often carry with them significant economic costs. While progress has been made in allowing international comparisons of *fatality* data using comparable methods, it is much harder to make cross-country comparisons of *non-fatal* injuries.¹

Most official data for road traffic injuries are collected by police, yet not all crashes are reported to – or recorded by – the police. Furthermore, accurate assessment of injury severity requires specialized training. Absence of such training means police often rely on proxy indicators such as whether the injured person

required hospital admission. However, severity indicators such as this are not standardized across countries – a situation further complicated by issues related to access to care.

As a result, many countries now use hospital data as the basis for figures on non-fatal injuries. On their own, hospital data are not a substitute for police data, but using hospital data in addition to police data can provide valuable in-depth information on outcomes and costs.

Lack of emergency care creates injury outcome disparities

The gross disparities in injury outcomes between high-income countries and low- and middle-income countries relate directly to the level of care received immediately post-crash,

¹ Due to a lack of a standardised definition for non-fatal injuries this information was not collected as part of this survey.

and later in a health-care facility. Some estimate that if trauma care systems for seriously injured patients in low- and middle-income countries could be brought up to the levels of high-performing countries, an estimated half a million lives could be saved each year (12).¹

Quality of care at scene of the crash

In high-income countries, delivering emergency care at the scene of the collision and getting crash victims quickly to a health-care facility is often performed by professionally trained providers using sophisticated equipment and designated vehicles. However, in low-income countries, laypeople such as community leaders, police, or taxi drivers who are trained in basic injury care and the coordination of transportation to a health-care facility can also fulfil these roles.

The most efficient way to activate an emergency response is through a universal, centralized access number with central dispatch (see Box 3). However, when universal access numbers are unavailable (under development or during disasters), partial measures to facilitate access include simple mechanisms to advise patients on the nearest facility and transport options, such

¹ Based on calculations showing approximately 2 million injury lives can be saved by such improvements. Of the current deaths and disability adjusted life years resulting from injuries 28% are from road traffic injuries.

as public broadcasts, mobile phone applications, electronic billboards or other mechanisms that provide real-time updates on available care resources.

Health-care staff must be trained in emergency care

Once at a health-care facility, a systematic clinical approach to the management of road traffic victim's injuries can improve outcomes. A consistent approach and systematic evaluation of every injured person ensures that life-threatening injuries are not missed, and that they are treated in order of the danger they pose. Hospitals in low- and middle-income countries are often staffed by general practitioners and nurses who treat a high volume of trauma patients every day, frequently without the support of dedicated trauma care training. Implementing accredited courses on trauma care for doctors and nurses in hospitals receiving a high-volume of trauma victims is an effective way of improving this care. In this assessment, 139 countries report having some type of emergency specialty for doctors, with this proportion higher in both high-income and middle-income countries (85% and 81% respectively) compared to low-income countries (53%). This indicates progress on rolling out such programmes relative to 2010 when 112 countries had such specialty

116 countries have a universal access number to activate emergency service response.

BOX 3

Single emergency national access numbers

Currently, 116 countries have a universal access number to activate emergency service response. This compares to 111 countries which had this number in place in 2010. Ideally, a universal emergency telephone number should:

- be valid throughout the catchment area;
- be available from every telephone device (landline or mobile);
- be easy to remember and dial (i.e. limited to 3 or 4 digits);
- be free of charge;
- provide access to a nearby vehicle dispatch centre;
- guarantee the confidentiality of the caller.

BOX 4

Trauma care improvement in Khon Khaen, Thailand^a

In 2006, a review of data from Thailand's northeastern province of Khon Khaen indicated about 10 000 road traffic injured patients visited the hospital's emergency room each year, of whom 4000 were admitted to the hospital.

To examine if patient care was optimal, the hospital's managers created a multidisciplinary trauma care team to design a quality improvement programme. This required the regular review of cases of patients who had died in the hospital as a result of a road traffic crash in order to assess where care could have been better. As a result, opportunities for improved care were identified and a number of quality improvement activities were incorporated into the regular hospital routines. These included regular review of severe and critical patients each week, identification of gaps in care, and implementing simple corrective actions, such as provider training, monitoring protocols for severe cases and resource checks in the clinical setting. Most activities were simple and inexpensive.



The mortality rate among moderately and severely injured road traffic victims was reduced by almost 50% (13).

^a For a summary of this see *Strengthening care for the injured: success stories and lessons learned from around the world, 2004* (http://www.who.int/violence_injury_prevention/services/success/en/, accessed 16 September 2015).

programmes. Similarly, while the number of countries with a dedicated emergency training programme for nurses is lower at 113, there is nonetheless progress compared to the 96 countries that had such programmes in 2010.

Other solutions to improving the outcome of road traffic injuries include streamlining procedures as part of trauma care quality improvement programmes (see Box 4). These programmes involve examining data on the care and outcomes of injured patients in order to target improvements in such care (14). These programmes require limited costs and have been shown to reduce injuries and deaths (15).

Multisectoral action is essential for effective national road safety strategies

Coordination of road safety efforts across multiple sectors and

stakeholders is critical for success. In many countries this role is fulfilled by a lead agency that should ideally have the authority and resources needed to coordinate the implementation of a national strategy.

Currently 167 countries report having an agency that leads national road safety efforts, compared to 162 in 2010. In some countries these take the form of a designated stand-alone agency: for example, the Norwegian Public Roads Administration (NPRA) is a stand-alone entity that coordinates road safety across different sectors and levels of government in Norway, and is involved in reviewing legislation and in data collection and dissemination. In other countries, however, the lead agency is situated within a government ministry: France's inter-ministerial committee is housed within the Ministry of Internal Affairs, while in Vietnam the Ministry of Transport takes the lead in coordinating the country's road safety efforts.



Target-setting is important to the implementation of road safety strategies: 126 countries have specified fatality targets in their national road safety strategies.

Achieving sustained reductions in road traffic injuries requires countries to have a long-term vision and strategy for road safety, and to define the objectives to be attained within the strategy's time period. The process for developing such a national strategy should involve a considerable degree of stakeholder engagement at the national level so that all relevant sectors – health, transport, police, and nongovernmental agencies – invest in a strategy that is itself based on the best possible evidence.

Currently 150 countries have a national strategy for road traffic safety, most of which (131) are partially or fully funded. This is progress relative to the 139 countries that reported the existence of such a strategy in 2010, of which 119 were partially or fully funded.

While a national strategy is essential to defining the vision behind a road safety programme, its implementation requires tangible objectives and, in particular, intermediate targets (16). Target-setting is a valuable means to get – and keep – traffic safety on the political agenda. Most high-performing countries articulate time-bound reduction targets for road traffic fatalities and serious injuries. This survey found that 126 countries have set out fatality targets in their national strategies, with a much lower number (68) specifying reductions in non-fatal injuries¹. This shows progress relative to 2010, when 112 countries had fatality targets articulated in their strategy and 62 had targets on non-fatal injuries.

¹ The lower number of countries with non-fatal targets within their national strategy is likely to be related to the difficulties in defining non-fatal injuries, see page 12.