SECTION 1

The current state of global road safety
Many countries have successfully reduced the number of deaths on their roads, while deaths are increasing in others

This report shows that there were 1.24 million deaths on the world’s roads in 2010, similar to the number of deaths in 2007. This plateau in the number of global road deaths needs to be viewed in the context of a corresponding 15% global increase in the number of registered motorized vehicles.

Although the aim of reducing the annual burden of road traffic deaths has yet to be realized, the lack of increase suggests that interventions to improve global road safety may have mitigated deaths that would otherwise have occurred. Between 2007 and 2010, the number of road traffic deaths decreased in 88 countries, suggesting that progress can be made with sufficient national commitment. Of these 88 countries, 42 are high-income countries, 41 are middle-income, and five are low-income (see Figure 3).

Nonetheless, there is a major, persisting concern in the 87 countries that saw increases in the numbers of road traffic deaths over the same period.

Middle-income countries are hardest hit

The overall global road traffic fatality rate is 18 per 100 000 population. However, middle-income countries have the highest annual road traffic fatality rates, at 20.1 per 100 000, while the rate in high-income countries is lowest, at 8.7 per 100 000 (see Figure 4).

Eighty per cent of road traffic deaths occur in middle-income countries, which account for 72% of the world’s population, but only 52% of the world’s registered vehicles. This indicates that these countries bear a disproportionately high burden of road traffic deaths relative to their level of motorization (see Figure 5).

1 These data are based on information collected in this survey for 182 countries, and estimated where appropriate to account for varying levels of data quality to make data comparable across countries. Data have been extrapolated to all 195 countries and territories in the world. Full details of the methodology used to develop comparative estimates are explained on page 42.

2 This proportion reflects the 14 countries that have moved from low- to middle-income status since the publication of the first Global status report on road safety.

Figure 3
Countries with changes in numbers of road traffic deaths (2007–2010), by country income status

Figure 4
Road traffic death rates per 100 000 population, by country income status

a See Table A2 in Statistical Annex for information on income-level classifications
The African Region has the highest road traffic fatality rate

There are large disparities in road traffic death rates between regions (see Figure 6). The risk of dying as a result of a road traffic injury is highest in the African Region (24.1 per 100,000 population), and lowest in the European Region (10.3 per 100,000).

There is also considerable disparity in rates between countries within the same region. The European Region has the highest inequalities in road traffic fatality rates, with low-income countries having rates nearly three times higher than high-income countries (18.6 per 100,000 population compared to 6.3 per 100,000) – these are similar to rates in South East Asia and Western Pacific Regions.

* Registered vehicle data provided only for countries participating in the survey.
Half of all road traffic deaths are among pedestrians, cyclists and motorcyclists

Half of the world’s road traffic deaths occur among motorcyclists (23%), pedestrians (22%) and cyclists (5%) – i.e. “vulnerable road users” – with 31% of deaths among car occupants and the remaining 19% among unspecified road users.

However, this global analysis masks significant differences regarding who is most at risk by country income status and by WHO region. In most low- and middle-income countries, a much higher proportion of road users are pedestrians, cyclists and users of motorized two- or three-wheeled vehicles than in high-income countries. In much of the African Region, for example, walking and cycling are important forms of mobility for a large proportion of the population, while in many South-East Asia and Western Pacific countries, motorcycles are used frequently because they are relatively affordable to buy and run. These different traffic mixes are reflected in road traffic fatality breakdowns. For example, 38% of all African road traffic deaths occur among pedestrians, while 36% of road traffic deaths in the Western Pacific Region are among motorcyclists (see Figure 7).

Comparing the proportion of deaths among different road user types between regions conceals the substantial range seen within regions. For example, while the Americas Region has the lowest proportion of vulnerable road user deaths (41%), this figure ranges from 22% in Venezuela to 75% or more in Costa Rica, Colombia and the Dominican Republic.

Figure 8 shows the breakdown of road fatalities by road user type and country.

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1 The term cyclist refers to users of two- or three-wheeled pedal cycles, but does not include those riding motorcycles or E-bikes.
income status. Low-income countries have the highest proportion of deaths among vulnerable road users (pedestrians, cyclists and motorcyclists combined) at 57%, with this figure lower in both middle-income (51%) and high-income countries (39%).

Almost 60% of road traffic deaths are among 15–44 year olds

Young adults aged between 15 and 44 years account for 59% of global road traffic deaths. More than three-quarters (77%) of all road traffic deaths occur among men, with this figure highest in the Western Pacific Region.

Regional variations are evident but mostly follow the same pattern (see Figure 9), except in high-income countries, where the proportion of deaths among those over 70 years is noticeably greater than in low- and middle-income countries. This difference is most likely related to longevity in these countries, combined with the greater risk posed by reduced mobility and increased frailty.

Non-fatal crash injuries are poorly documented

For every road traffic fatality, at least 20 people sustain non-fatal injuries (4). The severity of injuries sustained ranges from those that can be treated immediately and for which medical care is not needed or sought, to those that result in a permanent disability. Reliably assessing injury severity requires clinical experience; police in many countries who record official information on injuries often do not have sufficient training to reliably categorize injuries. Different definitions of injury severity further complicate reporting of injuries.

Information on the extent of non-fatal injuries is important in assessing the type of medical care needed. Some countries have hospitals with injury surveillance systems in place. Data from these systems indicate the severity of the problem, what staff are required and what treatment is provided, as well as identify primary prevention measures that could be implemented.

Unfortunately, even in high-income countries, this information is rarely national in scope because of the workload associated with high numbers of patients seen in hospital emergency rooms each day, and the complexities of accurately collecting this information. Consequently, many countries use systems that collect this information from a geographic sample, and then generalize results to the whole country (7). In most low- and middle-income countries, sophisticated injury information systems are even rarer – only 77 countries reported having a national injury surveillance system (47% of high-income and 46% of middle-income countries, but only 24% of low-income countries). The ability to accurately count the actual number of non-fatal injuries worldwide thus remains a challenge.
A significant proportion of patients who sustain a road traffic injury incur permanent disability, through amputation, head injury or spinal cord injury. However, data on the number of people who incur a permanent disability as a result of these crashes is not well documented—ranging from <1% in some countries (e.g., Croatia, Mexico, and the Russian Federation), to as high as 25% in Poland, but averaging around 5% overall (or 1 in 20 of those injured). This large range may be a result of different definitions used and different study methodologies.

Documenting the number of people who incur a non-fatal injury and/or disability as a result of a road traffic crash is important to guide a country’s planning services, i.e., making sure that these casualties receive the best possible care (see Boxes 1, 2) (8, 9).

**Harmonizing data collection on road traffic deaths**

To harmonize surveillance data of road traffic deaths and allow cross-country comparisons to be made, a 30-day definition is recommended for road traffic deaths.¹ Definitions used for official statistics on road traffic fatalities remain inconsistent, but there has been progress: 92 countries (51%) now use a 30-day fatality definition, an increase from the 80 countries using this measure in 2008.

Police are the source of official road traffic fatality data in 71% of countries. Data from police sources tend to have higher levels of underreporting than health sector data, particularly in low- and middle-income countries, because it can be difficult for police to follow up on the outcomes of road traffic crash victims (11).

Vital registration data are generated by the health sector, and report officially registered deaths and deaths for which certificates are granted, to guide a country’s planning services, i.e., making sure that these casualties receive the best possible care (see Boxes 1, 2) (8, 9).

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¹ A road traffic fatality should be defined as “any person killed immediately or dying within 30 days as a result of a road traffic accident” (11). The choice of 30 days is based on research that shows that most people who die as a result of a crash succumb to their injuries within 30 days of sustaining them, and that while extension of this 30-day period results in a marginal increase in numbers, it requires a disproportionately large increase in surveillance efforts.

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**BOX 1. GOOD PRE-HOSPITAL CARE AND QUICK TRANSPORTATION TO HOSPITAL CAN SAVE LIVES**

Although the ultimate goal must be preventing road traffic crashes from happening in the first place, much can be done to minimize the impact of injuries from crashes that do occur. Essential to this is the availability and efficiency of an adequate pre-hospital care system.

The pre-hospital timeframe (i.e., the time that elapses between the crash and access to emergency medical care) is critical for successful patient management. Access to pre-hospital services and quick evacuation and transport to hospital can save many lives, since the majority of those who die do so before they reach a hospital (12).

- All countries should have a single, universal national access emergency number – currently 111 countries have a universal national access emergency number while a further 42 countries have multiple national numbers.

- A functioning ambulance service that can rapidly transport the majority of patients to hospital. Only 98 countries have ambulance services available to transfer over 75% of injured patients.
have been completed by medical doctors (or where certificates do not exist, from verbal autopsy surveys) [13]. Vital registration data often cover an undefined time period so that, for example, a death that may have occurred as a result of a road traffic crash is recorded as a road traffic fatality even if the death occurs a year or more after the crash. In general, vital registration death data are more complete and have greater coverage than police data. However, vital registration data are currently not available from a number of countries.

While the use of a 30-day definition is recommended for police and transport data, and allows comparisons of road traffic deaths to be made over time and across countries, collecting data on road traffic deaths from vital registration systems also allows countries to compare road traffic deaths with other causes of death within their country [10, 13].

Linking data sources can improve official road traffic fatality estimates, but this process remains underused, with only 17% countries reporting the use of combined sources for their official road traffic fatality data. A number of countries have taken significant steps to improve the quality of their road traffic fatality data. Box 3 illustrates how Indonesia has taken steps to validate police data with other sources and thus reduce underreporting.

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1 In this survey, reported data have been adjusted using correction factors to bring them into line with a 30-day definition, and are shown as such in Statistical Annex y. These figures are shown side by side with the comparative estimates, which incorporate a country’s vital registration data where they exist and are considered to be complete.
Rapid motorization in Indonesia over the past few decades has been accompanied by an increasing number of road traffic fatalities. In 2009 the government initiated a multisectoral approach to improve the quality of data on road traffic injuries, and to address high levels of underreporting in the country. A national law was passed that specified new regulations for data collection. These included collecting and coordinating fatality data from multiple sources to supplement police data – data from insurance companies was included in 2009, with data from hospital sources added in 2010. As a result, data accuracy and completeness improved. However, when trends in national road traffic data are examined, there appears to be a sudden spike in 2010 (see Figure 11) corresponding with the introduction of the 2009 national law. The data from 2010 show that the number of deaths from road crashes was 31,234, an increase of over 10,000 deaths. This spike does not reflect a real increase in road traffic deaths, but rather the improvement in data quality and reduced levels of underreporting.

Although the government suspects that there is still underreporting in road traffic fatality data, improved data collection methods have allowed road safety planners to specify more precise and realistic targets for reductions in fatality levels over the next 10 years as part of their new National Road Safety Plan.