




Mortality from road traffic injuries in children and young people

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Mortality rates per 100 000 population for road traffic injuries in children and young people aged 0–24 years.

This indicator presents mortality from road traffic injuries (RTIs) for people aged 0–24 years in Europe, drawn from the WHO health for all mortality database (1). It also contains information on the environment and health context and the policy relevance and context, and an assessment of the situation in the WHO European Region.

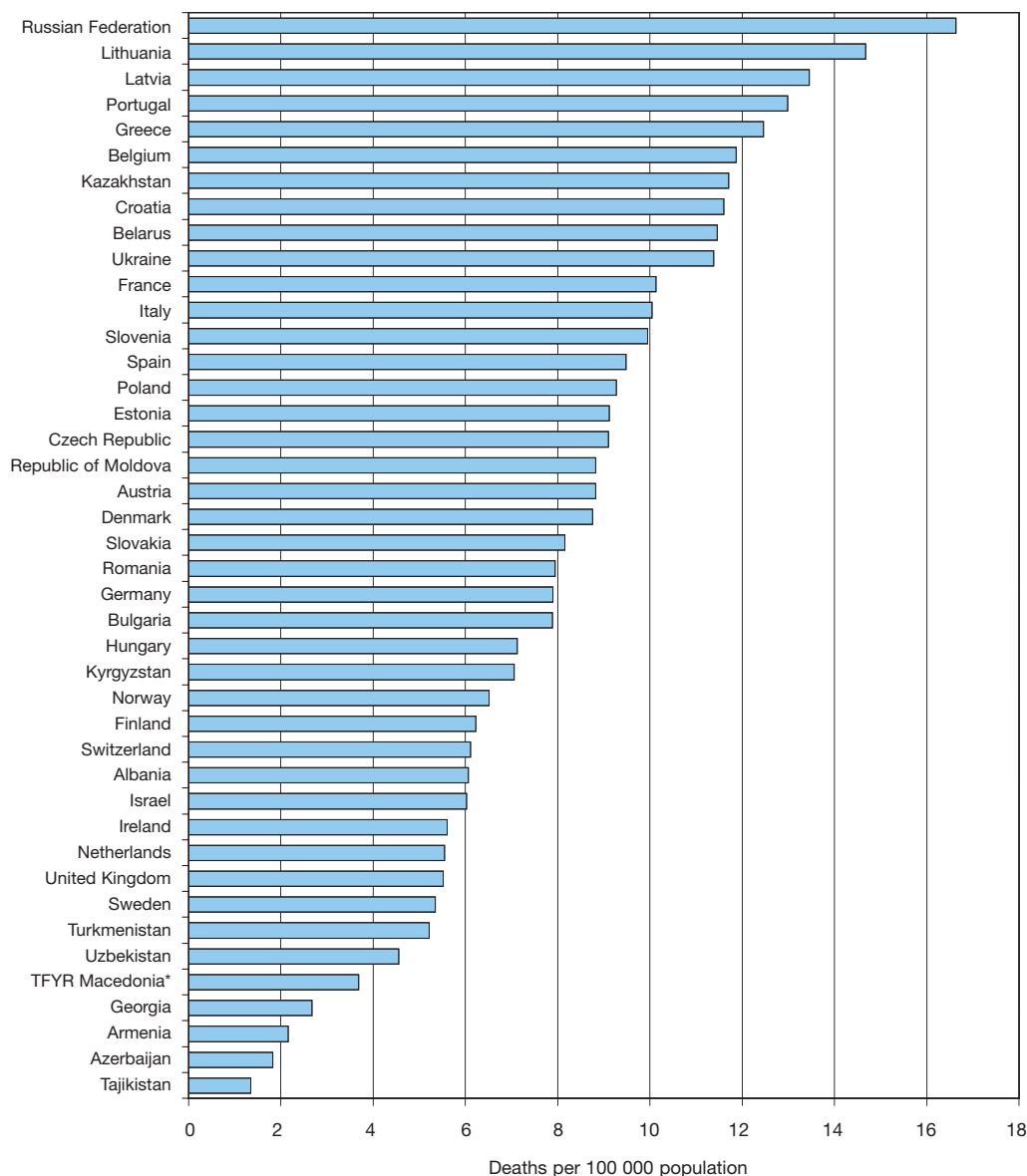
KEY MESSAGE

 Road traffic injuries are the leading cause of death in children and young people in the Region and the rates are unacceptably high. An eightfold difference exists between the lowest and highest rates in the Region. Encouragingly, the comparatively low mortality rates achieved by some countries indicate that deaths from RTIs are preventable. This underscores the urgent need to implement safe transport policies and preventive strategies.

RATIONALE

RTIs are the leading cause of death in children and young people aged 5–24 years in the Region. Up to 6400 deaths per year are estimated to occur among children aged 0–14 years and up to 25 500 among young people aged 15–24 years in the Region (2). These deaths may be reduced through the concerted efforts of institutions and civil society and the implementation of effective measures which address leading risk factors. Thus, this indicator reflects the impact and effectiveness of measures aimed at reducing RTIs and preventing them through safety.

Fig. 1. Standardised Mortality rates for road traffic injuries in children and young people aged 0–24 years in the WHO European Region, as averages for 2002–2004 or the most recent three years



*TFYR Macedonia = The former Yugoslav Republic of Macedonia

Source: WHO health for all mortality database, January 2007 (1).

PRESENTATION OF DATA

Figure 1 shows the standardized mortality rates (SMR) for RTIs in people aged less than 25 years for countries in the Region with available data and more than one million inhabitants. SMRs are the three-year average for the most recent years with data, as reported in the WHO health for all mortality database (1). Wide variations in SMRs are evident, with relatively high rates occurring in both high- and low-income countries.

Figure 2 shows the estimated proportion of deaths caused by RTIs in people aged less than 25 years for countries in the Region, based on the most recent estimates in the WHO Statistical Information System (3). The graph shows that deaths from RTIs contribute significantly to the overall burden of mortality in this group in the majority of countries.

HEALTH – ENVIRONMENT CONTEXT

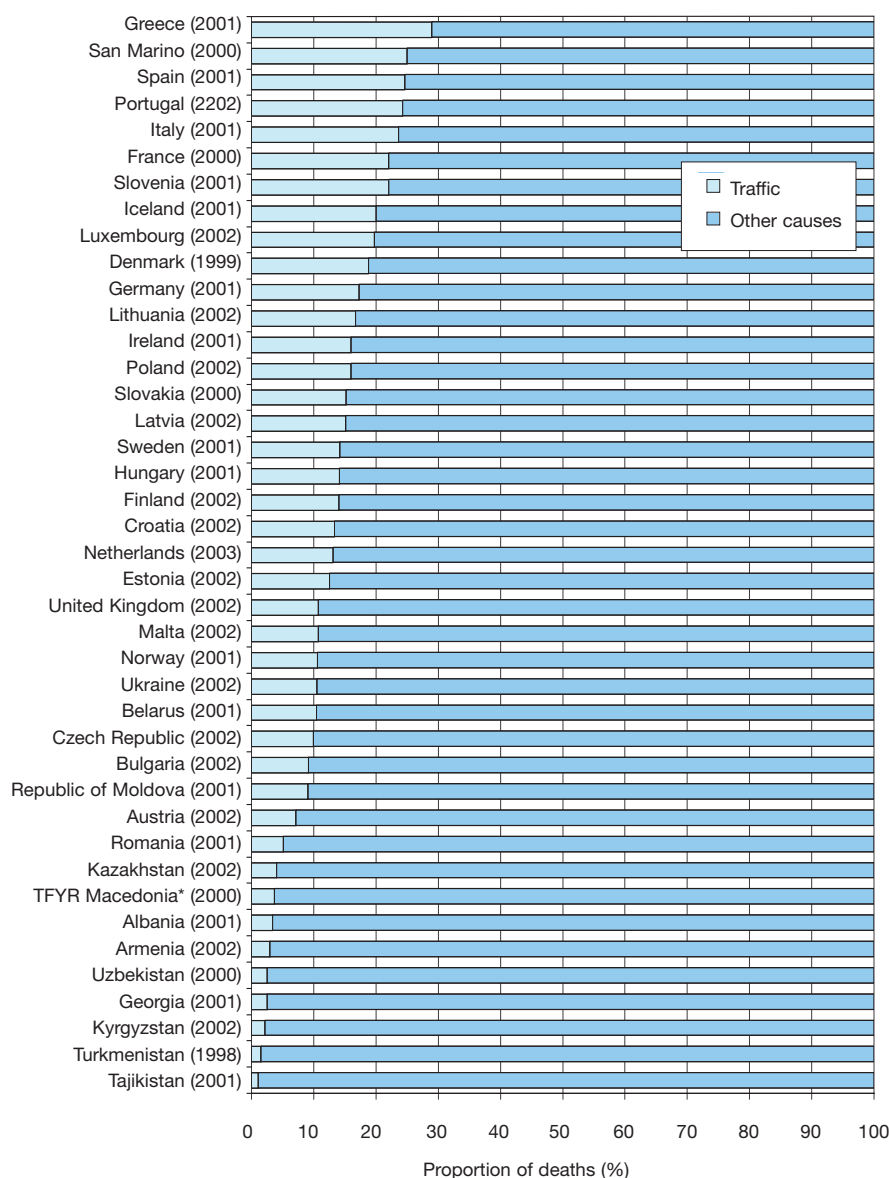
Worldwide, it is estimated that there were 1.2 million deaths from RTIs in 2002. Ten percent of these occurred in the Region, where RTIs are the leading cause of death for children and young people aged 5–24 years. Estimates suggest that each year RTIs cause as many as 6400 deaths in children aged 0–14 years and up to 37000 in young people aged 15–24 years, 5% and 33% of all deaths from RTIs, respectively (4).

Children and young people are particularly vulnerable to road traffic injuries as they have different physical and psychological characteristics than adults. Children aged less than ten years have a limited ability to cope with traffic and are disproportionately represented in deaths involving pedestrians. They are more at risk in conditions of heavy or fast traffic, limited visibility, or when a driver's attention is

focused away from pedestrians and cyclists. In the event of an accident, children are particularly vulnerable. Their head-to-body ratio increases the risk of head injury, and their height increases the likelihood that vital body parts are hit when collisions occur. Further, RTIs lead to post-traumatic stress disorder in up to 33% of the children. Of drivers and riders of motorcycles incurring RTIs, a disproportionate number are young people. This is due to a combination of limited experience, a tendency to engage in risky behaviour and greater vulnerability to the effects of alcohol (4).

Environmental conditions are believed to contribute significantly to RTIs in Europe, with the attributable mean fraction estimated at 25%. For RTI mortality, 35% (44 000 deaths annually) may be attributed to environmental conditions. This points to the importance of addressing land use policies and practices; road design, urban structure and density; and the matching of road design and vehicles (5).

Fig. 2. Estimated proportion of deaths due to RTIs in children and young people aged 0–24 years in the WHO European Region, for 2002 or last available year



*TFYR Macedonia = The former Yugoslav Republic of Macedonia

Source: WHO Statistical Information System (3).

POLICY RELEVANCE AND CONTEXT

Strong political commitment and leadership are required for the adoption of a comprehensive approach to road safety. These measures are discussed in greater detail in ENHIS-2 fact sheet No. 2.5 on policies to promote safe mobility and transport for children (6).

Within the Region, several policy developments have taken place which provide a reference for addressing RTIs. In 2004, the Fourth Ministerial Conference on Environment and Health adopted the Children's Health and Environment Action Plan for Europe, which includes four regional priority goals to reduce the burden of environment-related diseases in children (7). One of the goals (RPG II) aims to reduce mortality and morbidity from injuries, including from RTIs, and to ensure the provision of safe conditions which also facilitate more physical activity among children.

Indicators based on mortality from RTIs support policy evaluation with respect to the desired final outcome (reduction of RTI mortality) by providing benchmarks and setting a baseline against which progress can be monitored over time.

ASSESSMENT

Mortality rates due to RTIs in children and young people in the Region are unacceptably high. There are wide differences between countries, with an eightfold difference between the lowest and highest rates in the Region (2). In general, mortality rates are lower in the northern and western parts of the Region and in the countries belonging to the European Union before May 2004, but high mortality rates occur in some of these countries, including Greece and Portugal. Importantly, lower

mortality rates are evident in countries that have implemented safe transport policies, such as Sweden, indicating that there are major opportunities for reducing mortality. In terms of overall mortality in children and young people in the Region, RTI mortality contributes a significant proportion, reaching 25% in some countries.

RTIs have a high burden of disease in young people due to the considerable number of years of life lost to premature mortality, and the often severe and lifelong disability in survivors. This, accompanied by the devastating impact on the lives of victims and their families and the loss in productivity, results in high costs to society: estimates suggest that RTIs cost about 2% of gross domestic product (8). Of further interest is that large inequalities exist within countries; children and young people from socially disadvantaged groups are at much higher risk than those who are better off.

DATA UNDERLYING THE INDICATOR

Data source

Data on standardized mortality rates from transport accidents come from the WHO health for all mortality database (released January 2007 for age-specific and standardized rates) (1). The statistics are compiled by WHO. Data used for illustrating the relative burden of child mortality caused by road traffic accidents come from the WHO statistical system, global burden of disease database (released January 2005 for absolute figures) (2).

Description of data

The mortality indicator for "Standardized death rates, Transport accidents, per 100 000" is based on the WHO health for all mortality database (January 2007 edition). It is defined as including: ICD-9 BTL codes: B47; ICD-9 codes: 800–848; ICD-10 codes: V01–V99; ex-USSR 175 list: 160–162; ICD-10 Mortality Condensed list 1: 1096; EUROSTAT list of 65 causes: 60). The data presented include European countries with more than 1 million

inhabitants (as these present very unstable data) for which data are available in the WHO health for all database.

It should be noted that, as some countries have stopped reporting mortality data on motor-vehicle traffic accidents (ICD-9 BTL codes: B471 ICD-9 codes: 810–819; ICD-10 codes: V02–V04, V09, V12–V14, V19–V79, V82–V87, V89 ex-USSR 175 list: 160, 161), the indicator on transport accidents is a proxy that allows a more comprehensive and up-to-date comparison to be made at the European level, although it should be understood that it includes deaths occurred in other types of transport accident (for example, railway and aviation).

Method of calculating the indicator

The indicator represents the SMRs of children and young people aged 0–24 years who died as a result of transport accidents per 100 000 population. The age-standardized death rate is calculated using the direct method and standard European population structure. Mortality rates have been calculated by the WHO Regional Office for Europe using the data on deaths by cause/age/sex and mid-year population by

age/sex, annually reported to WHO by Member States. It should be noted that mortality rates for some countries may be biased due to the under-registration of deaths, particularly in the central Asian republics, the Caucasus countries and some countries in the Balkans region.

Geographical coverage

Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Israel, Italy, Kazakhstan, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkmenistan, Ukraine, the United Kingdom and Uzbekistan.

Period of coverage

Mortality rates for the average of the last three years, as reported in the WHO health for all mortality data-base, January 2007 version. The percentage contribution of children's deaths used data from the last available year for each country.

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6. WHO European Centre for Environment and Health. *Policies to promote safe mobility and transport for children*. Copenhagen, WHO Regional Office for Europe, 2007 (ENHIS-2 fact sheet No. 2.5).
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