This article presents an overview of European Union (EU) statistics related to accidents and injuries as well as assault. It focuses on four aspects: deaths from accidents and assault, the extent of accidents, healthcare for injuries and the availability of specialist healthcare personnel.

Unintentional injuries result typically from transport, workplace, home and leisure time accidents. Intentional injuries result from interpersonal violence (assault) and self-harm: note that statistics on self-harm can be found in an article on mental health and are not covered here. Injuries include superficial injuries (such as abrasions, blisters, bruises, splinters and bites), open wounds, open and closed fractures, dislocations, ruptures, tears, sprains and strains, as well as injuries to nerves, the spinal cord, blood vessels, muscles, tendons and internal organs, and also crushing injuries and traumatic amputation.

This article is one of a set of statistical articles concerning health status in the EU which forms part of an online publication on health statistics.

Deaths from accidents, injuries and assault

In 2015, there were 161 thousand deaths in the EU-28 resulting from accidents, equivalent to 3.1 % of all deaths. Table 1 shows that the proportion of deaths from accidents in France, Finland and Lithuania among the EU Member States, as well as in Norway among the EFTA countries, was equal to or over 4.5 %, while accidents accounted for less than 2.0 % of all deaths in Bulgaria, as well as in Serbia among the candidate countries.
Table 1: Causes of death — accidents (including the sequelae of transport and other accidents), residents, 2015

Source: Eurostat (hlth_cd_ar0) and (hlth_cd_asdr2)

A higher share of men (than women) in the EU-28 died from accidents in 2015 (3.6 % compared with 2.5 %). This pattern was repeated across all of the EU Member States and was most pronounced in the Baltic Member States where the difference between the sexes was at least 4.1 percentage points.

Men more likely than women to die from all types of accidents

The EU-28’s standardised death rate for accidents was 31.8 deaths per 100 000 inhabitants in 2015. The death rate for men (44.2 per 100 000 inhabitants) was just over double that for women (21.6 per 100 000 inhabitants) — see Table 1. In all EU Member States the standardised death rate for men was higher than that for women, most notably in the Baltic Member States where the difference was at least 57.3 deaths per 100 000 inhabitants.

While accidents were a more common cause of death at advanced ages, the difference between the rates for people aged less than 65 years and those aged 65 and over was relatively narrow compared with other causes of death. The EU-28’s standardised death rate from accidents for those aged 65 or over was 7.7 times as high as the rate for persons aged less than 65; for all causes of death the standardised death rate for those aged 65 and over was 21.2 times as high as for the younger generations.

A more detailed analysis of causes of death is presented in Table 2 for a selection of accidents as well as assault. Among men and women the three leading causes of death from accidents were the miscellaneous category of other accidents (including for example burns, electrocution, crushing and overexertion), falls and transport accidents. For each of these causes of death the standardised death rates for men were higher than for women in all EU Member States.
Table 2: Standardised death rates — accidents and assault, 2015 (per 100 000 male/female inhabitants)

There were some particularly high standardised death rates for some of these types of accidents. Among men, standardised death rates for falls were more than double the EU-28 average in Croatia, Slovenia, Finland and Hungary; among women, the rates were approximately double the EU-28 average in Hungary and the Netherlands and were closer to treble the average in Slovenia, rising to 3.7 times as high as the EU-28 average in Croatia (there were also relatively high death rates for falls among women in Switzerland). For transport accidents, standardised death rates for men and women were more than double the EU-28 average in Romania, while this was also the case for men in Latvia and for women in Lithuania and Cyprus. For accidental poisoning and exposure to noxious substances, the rates for men were more than six times as high as the EU-28 average in Estonia, rising above seven times as high in Lithuania; among women, rates were 4.6 times as high as the EU-28 average in Lithuania (and 4.4 times as high in Iceland). For accidental drowning and submersion the standardised death rates for men and for women were more than four times as high as the EU-28 average in Latvia and Lithuania.

The highest standardised death rates for assault were in the Baltic Member States and the lowest in the United Kingdom

In 2015, 3.5 thousand people died from assaults in the EU-28, equivalent to 0.07 % of the total number of deaths. In 2015, the standardised death rate for assault was 0.7 per 100 000 inhabitants for the EU-28, with the rate for men almost twice as high as for women (0.9 deaths per 100 000 male inhabitants compared with a ratio of 0.5 per 100 000 female inhabitants).
The highest standardised death rates for assaults among the EU Member States were recorded for the Baltic Member States, each recording a rate that was around two to three times as high as that observed in any other Member State, peaking in Latvia at 7.7 per 100 000 male inhabitants and 2.9 per 100 000 female inhabitants. The lowest standardised death rate from assault was in the United Kingdom, where the rate was less than one third that in any other EU Member State. Slovenia and Austria were the only EU Member States where the standardised death rates for assault for men were lower than for women in 2015 (while this was also the case in Norway among the EFTA countries).

**Age matters for death from accidents and assaults**

The impact of accidents is important both for younger and older people. On the one hand, accidents and injuries may trigger a fatal deterioration in the health of older people: more than three fifths (64.2 %) of all deaths from accidents in the EU-28 in 2015 were among people aged 65 years or over. On the other hand, a relatively high proportion of people under the age of 65 years die from accidents: the proportion of the total number of deaths that were caused by accidents was 2.7 times as high for people aged less than 65 years (6.5 %) than it was for people aged 65 years or over (2.4 %).

Between the ages of 1 and 4 years and for all five-year age groups between the ages of 15 and 34 years, accidents were the single most common cause of death (when comparing with the other major categories in the International Statistical Classification of Diseases and Related Health Problems (ICD) ). Among the five-year age groups between the ages of 1 and 34 years, accidents accounted for one sixth or more of all deaths, with this share peaking at 35.6 % for people aged 15-19 years (see Figure 1). Looking across the age groups from youngest to oldest, there is a large jump in the number (and also the share) of deaths from accidents when moving from the age group 10-14 years to the age group 15-19 years: there were almost five times as many deaths from accidents in the older of these two age groups than in the younger one. This large jump can, in part, be attributed to deaths from transport accidents, which alone accounted for nearly one quarter (23.6 %) of all deaths among people aged 15-19 years.
Compared with accidents, the age profile of people in the EU-28 dying from assaults was even more skewed away from older people: four fifths (79.8 %) of people killed by assaults in 2015 were aged less than 65 years. The five-year age range with the highest number of deaths from assaults was for people aged 40-44 years, some 361 deaths from assaults in 2015 (equivalent to just over one tenth of all deaths from assaults). Nevertheless, as a share of all deaths within each age group, deaths from assaults were most common in the age groups 1-4 years through to 35-39 years, peaking at 1.7 % of all deaths for those aged 15-19 years, 20-24 years and 25-29 years.

The extent of accidents

Figures 2 and 3 present data from the second wave of the European health interview survey (EHIS) which was conducted between 2013 and 2015 and which covered persons aged 15 and over. The survey included questions asking about injuries — resulting from transport accidents or accidents at home or while undertaking leisure activities — in the previous 12 months. Data for accidents are available for all of the EU Member States, Iceland, Norway and Turkey (see Figures 2 and 3). The next wave of the survey will be conducted in 2019 and it will be run at regular five-year intervals thereafter.

The proportion of people who answered that they had been injured in an accident at home or while undertaking leisure activities was less than 3.5 % in Croatia, Poland, Cyprus and Romania, with Bulgaria reporting the lowest proportion (1.8 %). By contrast, the proportion was close to 12 % in Luxembourg, Slovenia and Finland, around 14 % in Germany and the Netherlands, and peaked in the Czech Republic at 15.8 %.
In a majority (18 out of 28) of the EU Member States, a higher proportion of men (than women) reported injuries, with the largest gender differences in the Netherlands, Austria and Finland. In Greece and Poland there was no difference between the sexes for this indicator. Among the eight EU Member States where a higher proportion of women reported injuries, the difference was greatest in Malta and Spain.

Accidents at home or while undertaking leisure activities more frequently reported by the youngest and oldest generations than by those in middle age

An analysis by 10-year age ranges shows that the proportion of people who answered that they had been injured in an accident at home or while undertaking leisure activities tended to fall as the age group studied increased from youth (15-24) through to middle age: the proportion was generally lowest in one of the age groups 35-44, 45-54 or 55-64, although in Bulgaria, Croatia, Romania and the United Kingdom the lowest proportions were recorded for those aged 25-34 and in the Netherlands, Slovenia and Finland for those aged 65-74 (this was also the case in Norway). From middle age onwards, the proportion of people reporting an accident that resulted in injury increased again, peaking in most participating EU Member States in the highest age group covered (persons aged 75 or over).

Road traffic accidents most frequently reported by younger people

Across all EU Member States for which data are available (see Figure 3), the proportions of people reporting that they had been injured in road traffic accidents was systematically lower — for both men and women — than the proportion reporting they had been injured following accidents at home or while undertaking leisure activities. The share of people reporting a road traffic accident was lowest in Bulgaria and Romania (0.4 % and 0.2 % for men and women combined, respectively). For most of the other Member States this share ranged between 0.6 % and 2.1 %, with higher proportions recorded in Hungary, Italy (both 2.2 %) and Malta (2.3 %). There was a clear gender difference for road traffic accidents across the EU Member States, with men considerably more likely than women to report that they had an injury from a road traffic accident; the only
exception was France where the proportions of men and women reporting a road traffic accident were the same.

Figure 3: Share of the population reporting that they had a road traffic accident resulting in injury, 2015(%)
Source: Eurostat (hlth_ehis_ac1e)

An analysis by age for road traffic accidents shows a different pattern than for accidents at home or while undertaking leisure activities. For most EU Member States, the highest proportion of people reporting that they had been injured in a road traffic accident tended to be reported in one or other of the 10-year age groups up to the age group covering those who were 35-44, although in Latvia, Hungary and Romania the highest (or joint highest) proportions were registered in one of the older age groups. By contrast, the lowest shares tended to be reported in one or other of the 10-year age groups from 55-64 upwards, although Bulgaria, the Netherlands and Slovakia were exceptions, with their lowest proportion recorded for one or other of the younger age groups.

Healthcare for injuries, poisoning and other consequences of external causes

Austria and Germany had the highest number of in-patient discharges for patients treated for accidents and injuries

There were around 6.9 million in-patients with injuries, poisoning and certain other consequences of external causes (ICD codes S00-T98; hereafter referred to as accidents and injuries) discharged from hospitals in the EU (2016 data except: 2015 data for Hungary, Poland and Portugal; no recent data for Greece). In-patient discharges of those treated for accidents and injuries accounted for 10.0 % or more of the total number of in-patient hospital discharges in Finland, Cyprus and Austria (and this was also the case in Switzerland), while they accounted for just 5.6 % of the total number of in-patient discharges in Bulgaria and 4.7 % in Romania (relatively low shares were also recorded in Serbia and Turkey).

Relative to population size, Austria and Germany recorded the highest number of in-patient discharges for
those treated for accidents and injuries (2016 data except: 2015 data for Hungary, Poland and Portugal; 2014 data for Estonia; no recent data for Greece), with 2.9 thousand and 2.4 thousand per 100 000 inhabitants respectively, while in Cyprus and Portugal this ratio was below 800 per 100 000 inhabitants (see Figure 4); this was also the case in Serbia and Montenegro.

Figure 4: Hospital discharge rates for in-patients with injuries, poisoning and certain other consequences of external causes, 2016(per 100 000 inhabitants)Source: Eurostat (hlth_co_disch2)

Particularly long average length of stay for in-patients with a fracture of the femur

Across the EU (2016 data except: 2015 data for Poland and Portugal, 2014 data for Hungary, no recent data for Greece), in-patients with accidents and injuries spent a total of 52 million days in hospital.

An analysis of the average length of hospital stays for in-patients treated for accidents and injuries shows that in 2016 (see Table 3) this average ranged from 4.4 days in Bulgaria and Denmark up to 9.1 days in Luxembourg, with Italy, Portugal and the Czech Republic above this range, averaging between 9.6 and 10.6 days. Comparing the average length of stay in 2011 with that in 2016, most EU Member States reported increases or decreases of less than 0.5 days; Bulgaria, the Netherlands, Austria Croatia and Finland recorded larger decreases, while Belgium and Malta recorded larger increases.
The remainder of Table 3 provides a more detailed analysis of the average length of hospital stays for in-patients diagnosed with five different types of accidents and injuries. In-patients with a fracture of the femur (code S72) tended to spend the highest average number of days in hospital, whereas those poisoned by drugs, medicaments and biological substances or treated for toxic effects (codes T36-T65) generally spent the lowest average number of days in hospital.

Source data for tables and graphs

- Accidents and injuries: tables and figures

Data sources

Key concepts

An in-patient is a patient who is formally admitted (or 'hospitalised') to an institution for treatment and/or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution providing in-patient care. An in-patient or day care patient is discharged from hospital when formally released after a
procedure or course of treatment (episode of care). A discharge may occur because of the finalisation of treatment, signing out against medical advice, transfer to another healthcare institution, or because of death.

The number of deaths from a particular cause of death can be expressed relative to the size of the population. A standardised (rather than crude) death rate can be compiled which is independent of the age and sex structure of a population: this is done as most causes of death vary significantly by age and according to sex and the standardisation facilitates comparisons of rates over time and between countries.

**Healthcare resources and activities**

Statistics on healthcare activities (such as information on hospital discharges) are documented in this background article which provides information on the scope of the data, its legal basis, the methodology employed, as well as related concepts and definitions.

For hospital discharges and the length of stay in hospitals, the International Shortlist for Hospital Morbidity Tabulation (ISHMT) is used to classify data from 2000 onwards; Chapter XIX covers injury, poisoning and certain other consequences of external causes:

- Intracranial injury (1901);
- Other injuries to the head (1902);
- Fracture of forearm (1903);
- Fracture of femur (1904);
- Fracture of lower leg, including ankle (1905);
- Other injuries (1906);
- Burns and corrosions (1907);
- Poisonings by drugs, medicaments and biological substances and toxic effects of substances chiefly non-medicinal as to source (1908);
- Complications of surgical and medical care, not elsewhere classified (1909);
- Sequelae of injuries, of poisoning and of other consequences of external causes (1910);
- Other and unspecified effects of external causes (1911).

For country specific notes on this data collection, please refer to this background information document.

**Health status (extent of injuries)**

Self-reported statistics covering the health status of the population for road traffic and other accidents are provided by the European health interview survey (EHIS). This source is documented in more detail in this background article which provides information on the scope of the data, its legal basis, the methodology employed, as well as related concepts and definitions. The data presented in this article refer to the share of the population aged 15 and over reporting to have been injured through transport accidents or accidents at home or while undertaking leisure activities during the 12 months prior to the survey.

**Causes of death**

Statistics on causes of death provide information on mortality patterns, supplying information on developments over time in the underlying causes of death. This source is documented in more detail in this background article which provides information on the scope of the data, its legal basis, the methodology employed, as well as related concepts and definitions.

Causes of death are classified according to the European shortlist (86 causes), which is based on the International Statistical Classification of Diseases and Related Health Problems (ICD). Chapter XX of the ICD covers external causes of morbidity and mortality, including:

- V01-X59 Accidents;
- V01-V99 Transport accidents;
• W00-X59 Other external causes of accidental injury;
• W00-W19 Falls;
• W65-W74 Accidental drowning and submersion;
• X40-X49 Accidental poisoning by and exposure to noxious substances;
• Other accidents
• W20-W49 Exposure to inanimate mechanical forces;
• W50-W64 Exposure to animate mechanical forces;
• W75-W84 Other accidental threats to breathing;
• W85-W99 Exposure to electric current, radiation and extreme ambient air temperature and pressure;
• X00-X09 Exposure to smoke, fire and flames;
• X10-X19 Contact with heat and hot substances;
• X20-X29 Contact with venomous animals and plants;
• X30-X39 Exposure to forces of nature;
• X50-X57 Overexertion, travel and privation;
• X58-X59 Accidental exposure to other and unspecified factors;
• X85-Y09 Assault;
• Y85-Y89 Sequelae of external causes of morbidity and mortality;
• Y85 Sequelae of transport accidents;
• Y86 Sequelae of other accidents;
• Y87 Sequelae of intentional self-harm, assault and events of undetermined intent;
• Y87.1 Sequelae of assault.

Important note: for the statistics presented in this article, deaths from the sequelae of transport accidents are included under transport accidents, deaths from the sequelae of other accidents are included under other accidents. Equally, deaths from the sequelae of assault are included under assault. Sequelae denotes a chronic condition resulting from a certain disease or injury.

For country specific notes on this data collection, please refer to this background information document.

Note on tables: the symbol ‘·’ is used to show where data are not available.

Context

The importance of action to prevent accidents and injuries can be seen from an overview of the causes of death statistics. Leading to 161 thousand deaths in 2015 (3.1 % of all deaths), accidents were the one of the most common causes of death within the EU-28.

In June 2006, the European Commission adopted a Communication on Actions for a safer Europe (COM(2006) 0328 final) emphasising prevention measures. In May 2007, a Council Recommendation on the prevention of injury and the promotion of safety was adopted, targeting seven key priority areas, namely the safety of children and adolescents, elderly citizens, and vulnerable road users, as well as the prevention of sports injuries, injuries caused by products and services, self-harm, and interpersonal violence.

One of the actions conducted as part of the under EU’s health programme for 2008-2013 was a joint action on monitoring injuries in Europe (JAMIE) . The overall objective of JAMIE was, by the end of 2013, to have a common hospital based injury surveillance system in operation in the majority of EU Member States. JAMIE aimed to refine the methodology for collecting hospital based injury data with a view to facilitate data
collection and incorporate countries into the European injury database (IDB) monitoring system and exchange mechanism. The joint action offered assistance such as standardised training for national data administrators, twinning programmes, on-site consultations and country specific coaching for Member States which needed to start or restart a system, as well as continuous supervision and joint monitoring actions concerning the level of implementation in each Member State.

Other articles

Online publications

- Health in the European Union — facts and figures
- Disability statistics

Causes of death

- Causes of death
- Causes of death of the elderly

Healthcare activities

- Hospital discharges and length of stay
- Surgical operations and procedures

Methodology

- Healthcare non-expenditure statistics
- European health interview survey
- Causes of death statistics

General health statistics articles

- Health statistics introduced
- Health statistics at regional level
- The EU in the world — health

Main tables

- Health care (t_hlth_care)
- Causes of death (t_hlth_cdeath)

Database

- Health status and determinants (health_state)

Injuries from accidents (hlth_ifa)

People reporting having had an accident by sex, age and educational attainment level (%) (hlth_ehis_st2)

- Health care (hlth_care)

Health care resources (hlth_res)

Health care staff (hlth_staff)
Health care activities (hlth_act)
   Hospital discharges and length of stay for inpatient and curative care (hlth_co_dischls)
   Hospital discharges - national data (hlth_hosd)
   Length of stay in hospital (hlth_hostay)

- **Causes of death** (hlth_cdeath)

General mortality (hlth_cd_gmor)
   Causes of death - deaths by country of residence and occurrence (hlth_cd_aro)
   Causes of death - standardised death rate by residence (hlth_cd_asdr2)

**Dedicated section**
- **Health**
   - Health status and determinants
   - Health care
   - Causes of death

**Publications**
- Health statistics — Atlas on mortality in the European Union

**Methodology**
- Causes of death statistics (ESMS metadata file — hlth_cdeath)
- European health interview survey (ESMS metadata file — hlth_det)
- Healthcare activities (ESMS metadata file — hlth_act)
- Healthcare resources (ESMS metadata file — hlth_res)

**External links**
- European Commission Directorate-General for Health and Food Safety — Public health
- European Commission — Directorate-General for Health and Food Safety — European core health indicators (ECHI)
- OECD — Health policies and data
- WHO Global Health Observatory (GHO) — Mortality and global health estimates
- World Health Organisation (WHO) — Health systems

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