

SCOPE AND PATTERNS OF TOURIST ACCIDENTS IN THE EUROPEAN UNION

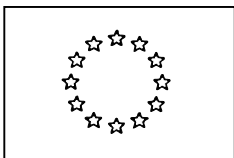
Final Report

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I. EXECUTIVE SUMMARY

EU Tourism. In 2000 five EU countries were among the ten leading tourist destinations in the world, and in 1999 the EU accounted for 43% of arrivals and 40% of receipts in non-domestic world tourism. In addition to its resident population of 375 million, the current 15 EU Members States temporarily host a total of almost 300 million tourists, 70% of which are EU citizens. The non-domestic tourist population (in 2001) ranges from 20% (Germany) to 200% (Austria) of the respective resident population.

No one wants to have to worry about safety while on holiday and tourist health and safety issues are considered as the prime selection criteria when tourists decide to which destination point they would prefer to go. However, accidents and disasters do occur and are quickly reported by the media.

Level of monitoring	Tourist Injuries Risk per 100.000 person-years [1]	Resident Injuries Risk per 100.000 person-years [1]
Hospital admissions	3.300	2.300
A&E treatments [1]	12.600	6.000
Mortality		
- All injuries	170	37
- Road traffic	132	14
- Drowning	15	1
- Mountains	70	0,2

Figure 1: Tourists' and residents' risk of injuries in the EU-15. Mortality risk from injuries is highly increased in non-domestic tourists. [1] Non-domestic tourist and respective resident population in selected EU-15 Member States (AT, FR, GR, NL). [1] based on ratio of tourist injuries to resident injuries and A&E¹ treatment EU-15 estimate (CVI, 2003).

Scope and risk of tourist injuries. With the local knowledge of the project partners we were able to set “spot lights” on tourist mortality in Austria, France and Greece (covering around 30% EU-15 tourism) and on tourist morbidity in Austria, France, Germany, Greece, Italy and The Netherlands (covering around 50% EU-15 tourism). It should be mentioned that data on injuries of tourists were sought from practically all Member States, but this was in most cases unsuccessful. Thus, the data in the following tables are far from comprehensive, but still give a first and intuitively reasonable guesstimate of the scope of tourist injuries in the EU-15 (**Figure 1**).

Overall injury mortality of non-domestic tourists was found to range between 130 and 200 fatalities per 100.000 person-years of exposure. The average tourist injury mortality risk of 170 translates into an estimate of 3.800 non-domestic tourists fatalities per year in the EU-15

¹ Hospital's accident and emergency department

(ranging from 2.800 to 4.400; rounded to the nearest 100). Main causes are traffic accidents, drowning and physical activities in the mountains (**Figure 2**).

Level of monitoring	Tourist injuries (estimated cases)	Min.	Max.
Hospital admissions	83.000	45.000	158.000
A&E treatments [1]	280.000	200.000	650.000
Mortality:			
- All injuries	3.800	2.800	4.400
- Road traffic	2.900	1.400	4.200
- Drowning	340	220	640
- Mountain	280	120	-

Figure 2: Estimated number of tourist injuries in the EU-15. The death toll from injuries among non-domestic tourists in the EU-15 is estimated to range between 2.800 and 4.400 per year. Main causes are traffic accidents, drowning and sports and leisure activities in the mountains. [1] based on ratio of Tourist Injuries to Resident Injuries and EU-15 A&E treatment estimate (DG SANCO, 2003). Estimates based on samples from AT, FR, GR, IT, NL (actual cases: 1.031 fatalities, 25.000 hospital admissions and 14.000 A&E treatments).

The share of tourist injuries to resident injuries in the participating Member States was found to range between 0,5 (FR) to 5% (AT) for hospital admissions, between 1% (NL) and 3% (AT) in A&E treatments and between 4% (GR) and 11% (AT) in overall injury mortality (**Figure 3**).

Level of monitoring	Ratio of tourist injuries to resident injuries (%)	Min.	Max.
Hospital admissions	1%	0,5%	5%
A&E treatments	1%	1%	3%
Mortality:			
- All injuries	7%	4%	11%
- Road traffic	7%	3%	19%
- Drowning	7%	5%	10%
- Mountain	77%	-	-
- Media reports	16%	6%	28%

Figure 3: Ratio to Tourist Injuries to resident injuries. Tourist injuries in the EU-15 account for an average of 1% of hospital treatments and 7% of injury fatalities of the resident population. Ratios may be dramatically increased in destinations with specific risks, like the Alps and the sea (various sources of selected EU-15 Member States: AT, FR, GR, IT, NL. „Mortality: Mountain“ is based on Austrian data only).

The maxima of the indicated ratios reflect regions with a high level of exposure to (known) risky activities, like skiing (AT), swimming and diving in the sea (FR, GR) and going by car (AT, including transit).

Additional findings on the scope of tourist injuries indicate that injuries, i. e. external causes, account for 20% (range 8% to 30%) of overall non-domestic tourist mortality in the EU-15, of which unintentional injuries account for over 90% of cases.

Patterns of EU tourism. Rate, length and preferred destinations of vacations differ a lot among European holidaymakers. The following general trends explain for some of the observed results on the epidemiology of tourist injuries:

- Destinations are extremely divers, but the EU-15 still heads the list for European Union holidaymakers: 43% (GR), 54% (A), 55% (I) to 66% (D), 74% (NL) and 80% (L, IRL).
- The majority of European Union holidaymakers are aged between 25 and 44, followed by the 45-64 age bracket.
- Private or hired vehicles are the most frequently used mode of transport.
- Average length of stay is 3,4 nights: Total nights spent are over 800 million or 2,2 million person-years of exposure.
- Intra EU-15 tourism flow accounts for about 70% of all nights by non-residents in hotels and similar establishments.
- Of intra EU-15 tourism four EU-15 countries provided 70% of EU-15 inbound tourism: Germany 36%, United Kingdom 23%, The Netherlands and France 7% each.
- Tourist arrivals in % of resident population is 80% on average, ranging from 20% (Germany) to over 200% (Austria). For the main tourist destinations this share is 130% (France and Spain) and 70% (Italy).

Tourism in the participating Member States of this study (France, Greece, Italy, the Netherlands and Austria) is somewhat above EU-15 average. This might lead to a slight overrating of tourist risks when extrapolated to the EU-15 area.

Activity	Male	Female	Total	Total %
Transport	168	72	240	55%
Sports, physical activity (incl. drowning)	127	25	152	35%
Others (vital and leisure)	27	4	31	7%
Intentional Injuries (Murder, Suicide)	7	6	13	3%
Occupational	3	0	3	1%
Total	332	107	439	100%
	76%	24%	100%	

Figure 4: Tourist injury fatalities by activity: Two types of activities account for 90% of fatal injuries among non-domestic tourists in the EU-15 Member States: Traffic and physical activities, incl. Drowning. Data from Austria and Greece.

Patterns of tourist injuries in selected EU-15 Member States. For lack of specific tourism data it was not possible to provide population based regional injury figures. Tourist injuries were compared to the respective injuries of the resident population of the destination country:

- **Sex.** Men account for more than 60% of tourist injuries treated at the hospital (10 percentage points more than in the respective resident population) and almost 80% of tourist fatalities (same as in the resident population of the destination country).

- **Age.** Adults in the age groups between 25 and 64 account above average (of the resident population) for tourist injuries at all levels of monitoring (hospital admissions, A&E treatments, and especially fatalities; Figure 5).

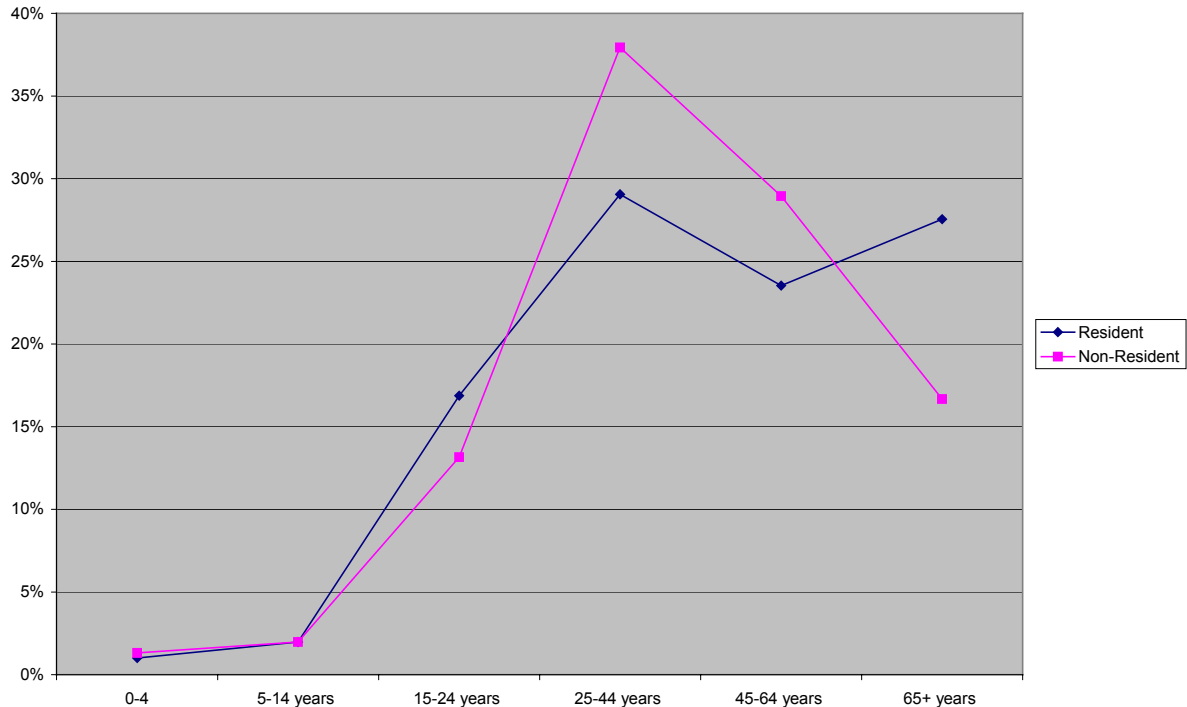


Figure 5: Tourist injury fatalities by age: The relative age distribution indicates that tourists between 25 and 44 years of age and between 45 and 64 years of age – both predominantly male - are specifically prone to suffer from fatal injuries during vacation. The latter group mainly from overexertion during physical activity (swimming, skiing, mountain hiking), the former mainly from traffic accidents (based on 456 cases of tourist fatalities from Austria, France and Greece).

- **Age.** Children (0-14) and the Elderly (64 +) tended to have a lower share of injuries in the non-domestic tourist population than their peers in the resident population.
- **EU-citizens.** On average, 80% of non-domestic hospital admissions of tourists affected EU-15 residents (50% of A&E treatments and 60% of fatalities).
- **Country of origin.** 40% of hospital treated tourist injuries affected Germans (34% arrivals), 20% United Kingdom residents (25% arrivals), and 11% Dutch and Italians (9% and 8% arrivals).
- **Setting.** Transport related tourist injuries account for 20% of hospital admissions, 30% of A&E treatments and over 50% of fatalities (**Figure 4**). “Home, leisure and sports” injuries account for 66% of hospital admissions, 54% of A&E treatments and 36% fatalities (mainly sports and drowning).

- **Place of occurrence.** A&E treated tourist injuries occurred – with big variation among data sources - at a more or less equal share in Service Areas (23%), “at home” and outdoor (18%), on streets (15%) and in Sports areas (15%).

In a pointed conclusion and with the focus on the prevention of fatalities, the epidemiological analysis of tourists injuries identifies **male tourists aged between 25-64 from Germany, United Kingdom, The Netherlands and Italy as main target groups for tourism risk management.** Main target settings are traffic safety (male tourists aged between 25-44) and “sports” (age group 44-64), namely swimming, skiing, mountain hiking.

What about prevention? In an additional tourist injury survey that was conducted in Austrian hospitals between January 2002 and March 2003,

- the majority of non-domestic injury victims – mostly from skiing - blamed own lack of attention or safety attitude for the accident.
- 80% declared that their injury could have happened also in their home land, and was thus not caused by specific circumstances in the destination country.
- Only a small proportion indicated that better information or training (about rental equipment), protective equipment or a product innovation could have prevented the accident or the injury.

This nonchalance of the victims is in contrast to the often severe consequences of an skiing accident, as described by the victims also:

- 30 % of the injured tourists were transported to hospital by a rescue service, 20% even by helicopter.
- More than 50% of the patients said they would need a follow-up treatment at home.

These findings, a very professional and well organised medical care sector, and hardly any considerations about preventability or liability on the side of the injury victims, confirm the notion of predominance of injury treatment over injury prevention.

“Keeping Safe” strategies for tourists and tourist destination. While numerous programs and internet-services provide information about the health aspects of travel, only a few examples of dedicated tourist safety programs with a focus on injury prevention were found.

Most national, regional or institutional initiatives in injury prevention in potential tourist domains (examples are given for skiing safety in Austria) do not effectively address non-domestic tourists. This may be due to the lack of respective evidence (no monitoring) or due

to marketing priorities. The National Visitor Program in Queensland, Australia, is quoted as a rare example of an evidence-based approach towards tourist safety, targeting both individual tourists and tourists operators. Based on the tourist hospital admissions for injury a multi-lingual booklet and video cover most of the areas where visitors are likely to experience problems in this destination.

On the international level the World Tourism Organisation (WTO) has recently updated its guidelines for the development of partnerships between governments and industry related to risk management and sustainable tourism, and actual implementation of the Safety and Security in Tourism Manual could be taken forward within the WTO Safety and Security Network (www.world-tourism.org/quality/E/safety.htm).

It is recommended that on the EU legislation level, the WTO Network should link with both the Enterprise Directorate-General (europa.eu.int/comm/enterprise), ensuring the interests of the tourism sector, and the Health and Consumer Protection Directorate-General (DG SANCO., europa.eu.int/comm/health), responsible for the physical safety of tourists.

The most important role for DG SANCO to play in the implementation of international and national Measures for Tourism Safety at this initial phase, could be in international surveillance of tourist injuries in the EU. The first recommended steps, that would go along with the general efforts in harmonising EU health monitoring, are:

- Inclusion of Country of Residence as a standard information in the national death certificates, and subsequently in the international aggregation of national ICD and traffic mortality data (WHO, EUROSTAT, EUPHIN², CARE, OECD).
- Standardisation of inclusion and exclusion criteria for tourist fatalities in national mortality statistics within the EU Member States.
- Inclusion of Country of Residence in the international aggregation of national hospital discharge registries (WHO, EUROSTAT, EUPHIN, OECD).
- Inclusion of Country of Residence as a standard information in the national data set for DG SANCO's Injury Database (IDB³; a dedicated hospital based injury data collection as part of EUPHIN).

The suggested amendments to the existing EU health and injury monitoring would enable the Commission and the Member States to examine personal risks to travellers in any detail at the

² European Union Public Health Information Network

³ former ISS (injury Surveillance System) and EHLASS (European Home and Leisure Surveillance System)

various levels of monitoring (fatalities, hospital admissions and A&E treatments) and thus to enhance evidence-based action in the field of tourist safety. This in turn, will help to maintain Europe's, leading position in the world in international tourism.

The current findings of a significant number of non-domestic tourist injury fatalities and hospital admissions in the EU-15 Member States and the challenges for tourism in the era of expansion of the European Union are two good reasons to tackle the problem of "Tourism and Accidents" now.

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