

Permanent study on
home and leisure injuries



Epac network

Results 2004

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Home and leisure injuries (HLIs) are unintentional injuries. They include:

- domestic injuries, taking place at home or in its immediate surroundings: garden, courtyard, garage, and other outbuildings;
- injuries that occur outside: in a shop, on a pavement, near the home, etc.;
- school injuries, including injuries suffered on the way to or from school, during physical education classes and on school grounds;
- sports injuries;
- holiday and leisure injuries.

Home and leisure injuries are very common: millions of HLIs requiring medical treatment occur in France every year. There are very few sources of epidemiological information in this area. The French permanent study on home and leisure injuries, *Enquête permanente sur les accidents de la vie courante (Epac)*, is operational in a number of volunteer hospitals in France. Epac is part of the European Injury Data Base (IDB) system, in which emergency departments register in the database information on patients treated for an HLI: age, sex, place of residency, care provided (date and time of emergency department admission, treatment, hospitalisation if applicable), details of the accident (mechanism, place, activity, nature of injury, part of body injured), and products (agents, elements) that caused or were involved in the injury. Finally, a short description of the accident is entered as free-form text.

In 2004, nine hospitals contributed to the database, entering a total of 88,707 records:

- Annecy general hospital (17% of records);
- Besançon teaching hospital (8%);
- Béthune hospital (9%);
- Bordeaux teaching hospital (15%);
- Le Havre hospital group (19%);
- Cochin hospital in Paris (6%);
- Saint-Paul hospital on la Réunion (3%);
- Vannes hospital (19%);
- Franciscan clinic in Versailles (4%).

The results of the Epac study from recent years have been used on many individual occasions, and have been covered in two recently published reports:

- *Résultats de l'Enquête permanente sur les accidents de la vie courante, années 1999-2001. Réseau Epac. Institut de veille sanitaire, décembre 2003 ;*
- *Résultats de l'Enquête permanente sur les accidents de la vie courante, années 2002-2003. Réseau Epac. Institut de veille sanitaire, octobre 2005.*

Since 1999, the results have proved robust at the level of detail used to report them. The distributions by age, sex, place, activity, mechanism, injury and part of body injured do not show variation over time. This level of stability in the results has been observed despite the change in the number and type of hospitals in the network and the change of nomenclature on 1 January 2004. The new nomenclature and the rules for data collection are described in the Epac reference guide, *Guide de référence de l'Enquête permanente sur les accidents de la vie courante*, published by the InVS in December 2004.

These results can be consulted on the section of the InVS website dedicated to home and leisure injuries: www.invs.sante.fr, "Dossiers thématiques", "Accidents de la vie courante".

These results may be cited or distributed with the following reference:

Thélot B, Ricard C. Results of the permanent study on home and leisure injuries, 2004. Epac network. Institut de veille sanitaire, July 2006.

2 Results

2.1 | Injured patients

Distribution of HLIs according to age and sex

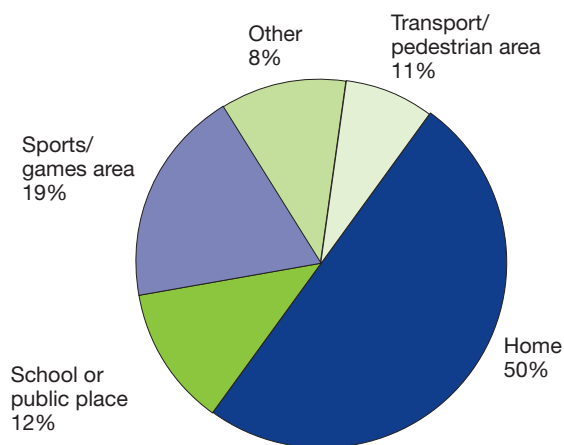
Age (y)	Male		Female		Total		Sex-ratio
	n	%	n	%	n	%	
0-4	8,346	17%	6,235	17%	14,581	17%	1.34
5-9	6,534	14%	4,828	13%	11,362	13%	1.35
10-14	8,133	17%	6,080	16%	14,213	17%	1.34
15-19	4,521	9%	2,514	7%	7,035	8%	1.8
20-24	3,804	8%	1,952	5%	5,756	7%	1.95
25-29	2,936	6%	1,511	4%	4,447	5%	1.94
30-34	2,610	5%	1,401	4%	4,011	5%	1.86
35-39	2,099	4%	1,241	3%	3,340	4%	1.69
40-44	1,836	4%	1,229	3%	3,065	4%	1.49
45-49	1,484	3%	1,128	3%	2,612	3%	1.32
50-54	1,253	3%	1,237	3%	2,490	3%	1.01
55-59	1,151	2%	1,194	3%	2,345	3%	0.96
60-64	732	2%	857	2%	1,589	2%	0.85
65-69	601	1%	878	2%	1,479	2%	0.68
70-74	538	1%	1,033	3%	1,571	2%	0.52
≥ 75	1,446	3%	4,432	12%	5,878	7%	0.33
Total	48,024	100%	37,750	100%	85,774	100%	1.27

Of the 88,707 injuries registered in the Epac database in 2004, the age and sex of the patient were entered in the vast majority of cases (85,774 HLIs). The data in the Epac database for 2004 show that, in the hospitals in the network, the number of patients injured according to age range decreases from birth to approximately 70 years of age, and increase from this age onwards. There is a markedly higher number of male HLI patients up to the

age of 50, resulting in sex ratio values between 1.3 and 2.0. After 65 years of age there is a greater proportion of injured women than men, principally because they are over-represented in the general population (general population sex ratio 0.69 after 65 years of age), but also because they suffer more falls than men.

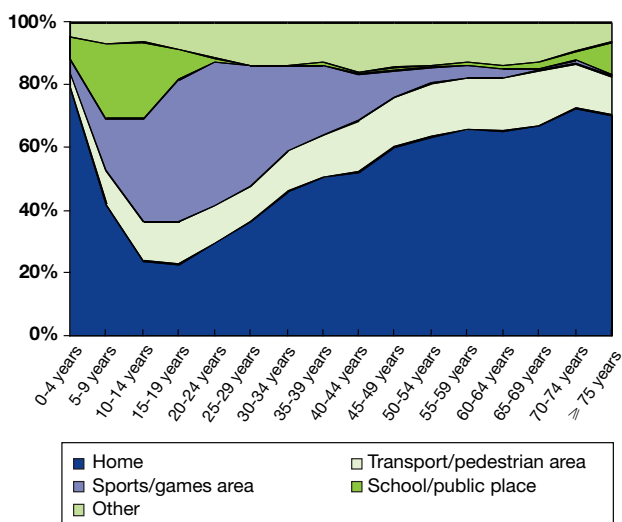
2.2 | Place of occurrence of HLIs

Distribution of HLIs according to place of occurrence

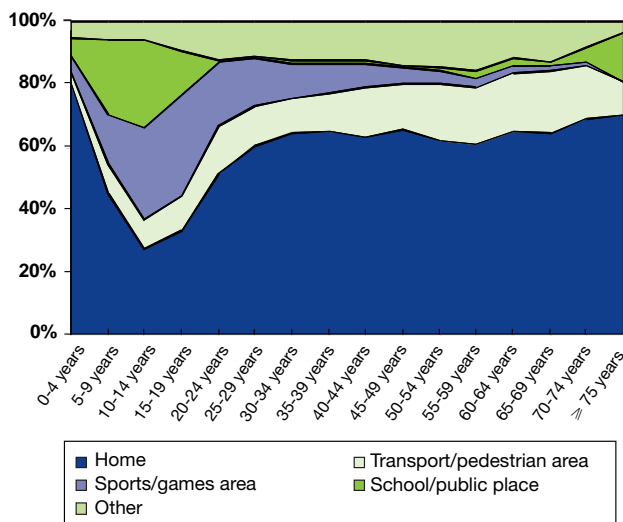


Half of HLIs occur in the home or its surroundings. Other common places of occurrence are sports and games areas (19%), public places and schools (12%) and transport and pedestrian areas (public highway, train station, pavement, etc., 11%). The remaining places, in which 8% of HLIs take place, are shops, farming or industrial areas, the countryside, etc.

Place of injury according to age, males



Place of injury according to age, females



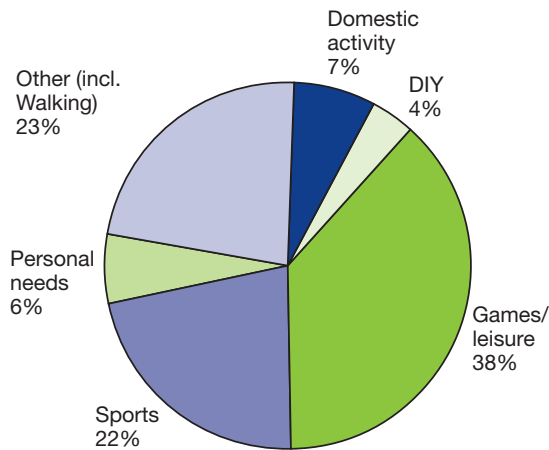
There is an uneven distribution of places of occurrence of injuries according to age for males and females:

- the home is the most common place of occurrence of HLIs for females (55% of HLIs compared to 47% for males). More than half of injuries occur at home from the age of 20 onwards. This proportion increases with age, accounting for more than two in three HLIs in people aged 75 and above;

- in males, more injuries occur in sports and games areas (22%, compared with 14% for females). Injuries in sports and games areas occur most frequently between the ages of 15 and 40 years (45 to 15%).

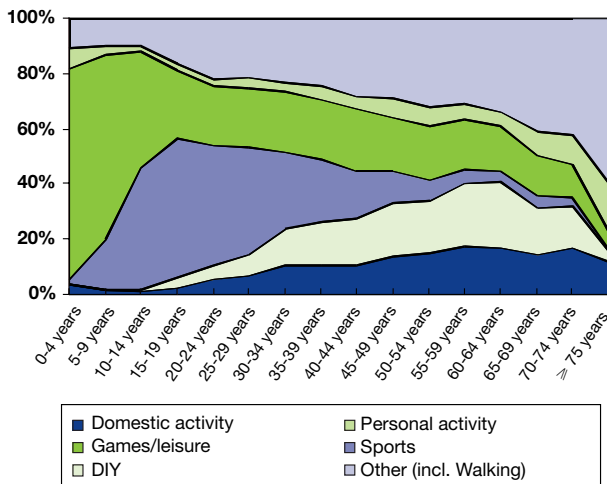
2.3 | Activity

Distribution of HLIs according to activity

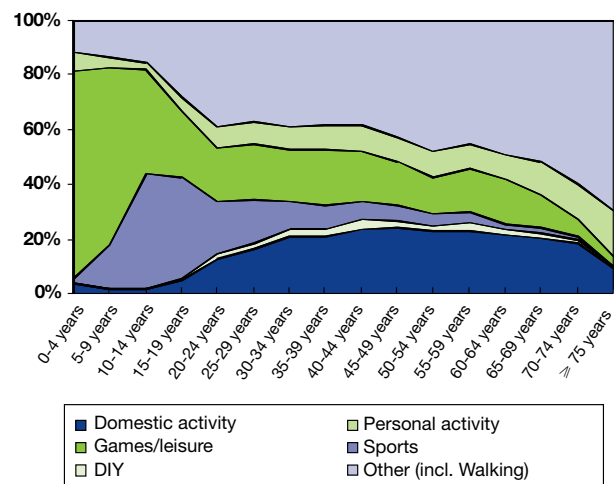


Games and leisure are the activities most commonly being practised when HLIs occur (38%), in both males (40%) and females (36%). Other activities, in particular walking, are responsible for 23% of HLIs, followed by sports (22%), domestic activities (7%), personal needs (washing, eating, sleeping, etc., 6%) and DIY (Do It Yourself, 4%).

Activity according to age, males



Activity according to age, females



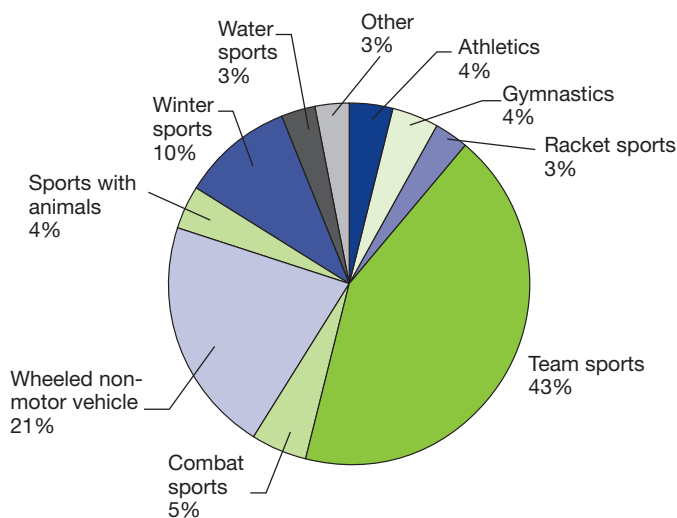
The distribution of activities being practised when the HLI occurred varies significantly according to age and sex:

- the incidence of HLIs connected with personal needs increases with age;
- games and leisure HLIs occur very frequently in early childhood (more than one in three HLIs) then the incidence decreases from this point onwards, although

games and leisure activities remain a common cause of HLIs;

- sports-related injuries represent more than one in three HLIs between the ages of 10 and 24: 44 to 51% in males, and 39 to 20% in females;
- from 30 years of age onwards, HLIs are often connected with domestic activities: DIY predominantly in males (more than one in five HLIs) and other domestic activities particularly in females (almost one in four HLIs).

Sport being practised when the injury occurred



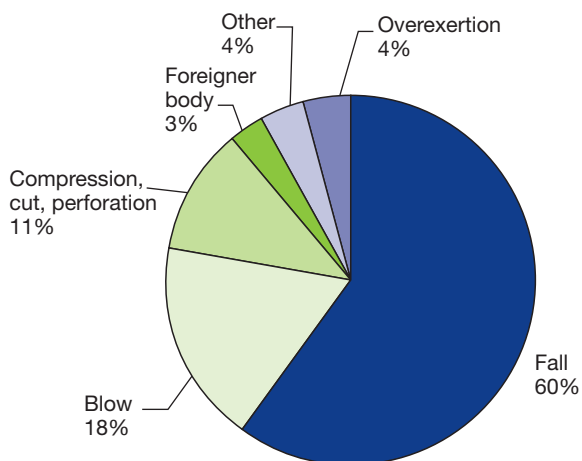
In 2004, the sport being practised when the injury occurred was entered in 16,824 cases. Almost half (43%) were team sports, notably football (62% of team sports). Sports involving a non-motor vehicle were being practised in 21% of HLIs, 73% of which involved bicycles. Winter sports were the cause of 10% of HLIs. The fourth most common type of sport being practised was combat sports (5%), followed by athletics, gymnastics, sports involving animals (4% each), racket sports (such as tennis or badminton), water sports and other sports (3% each).

The majority of people practising a sport when they suffered their injury were aged between 5 and 29 years (79%). The 10 to 14 age group alone included 30% of the injured people.

Most sports injuries were suffered by males (70%, sex-ratio 2.3).

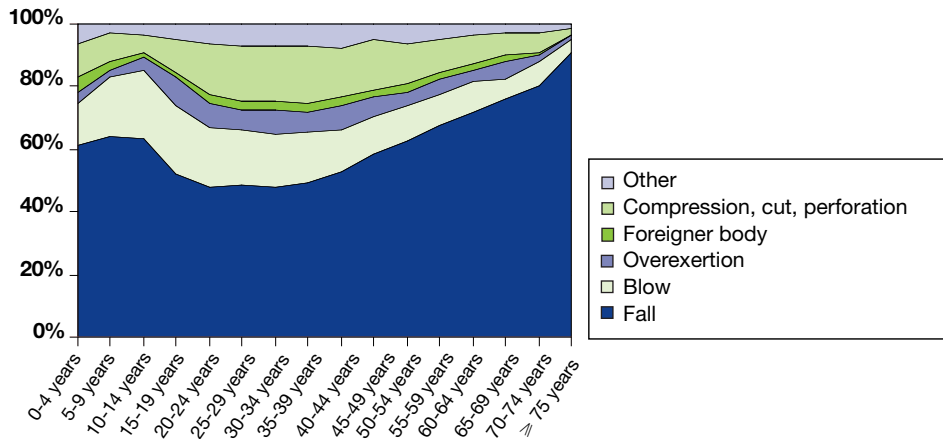
2.4 | Mechanism

Distribution of HLIs according to mechanism



The most common HLI mechanism was a fall (60%), followed by blows (18%), cuts, compression and perforations (11%). Overexertion, including inadvertent movements, was the source of 4% of HLIs, while foreign bodies (e.g. in the eye, nose, etc.) accounted for 3%. Other HLI mechanisms (4%) were burns, poisoning or asphyxia (with no foreign body involved). This distribution of mechanisms was the same in males as in females.

Distribution of mechanisms according to age



Falls represented the most common mechanism of injury in patients of all ages. Falls caused more than one in two HLIs in those under 15 or over 40 years of age, and were the primary cause of HLIs in the very elderly

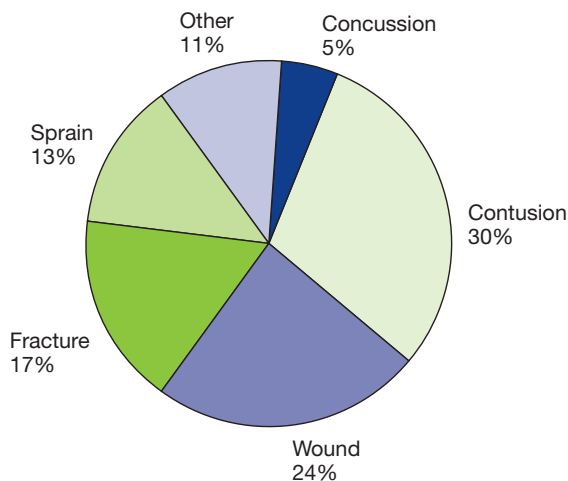
(90% of HLIs in people aged 75 and over). Blows accounted for more than one in five HLIs in people younger than 30, while cuts were most common in adults aged between 20 and 60 (15 to 19% of HLIs).

2.5 | Injury

The vast majority of HLIs resulted in only one injury, with a second injury being registered in the Epac database in only 8% of cases, and a third injury in less than 1%

of cases. The information that follows relates to the main injury.

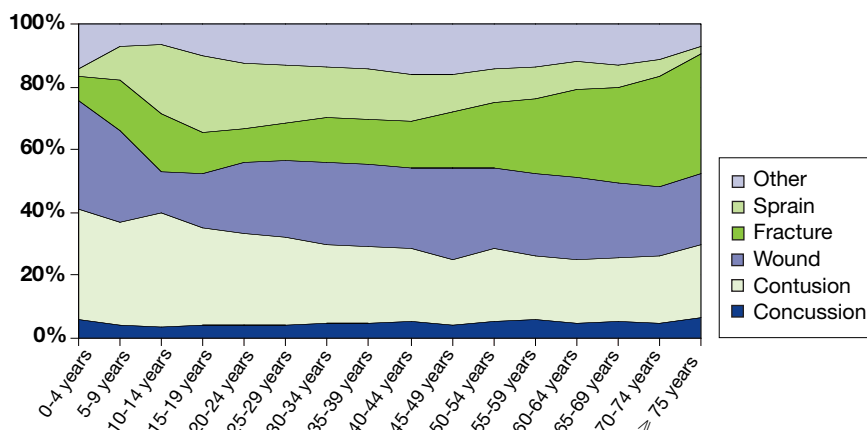
Distribution of HLIs according to injury



Contusions represented the most common type of injury after an HLI (30% of injuries), followed by wounds (24%), fractures (17%), sprains (10%) and finally concussion (5%). The other types of injury (11%) were burns, poisoning, abrasions, dislocations, etc.

There was no difference between males and females in the distribution of injuries. The proportion of males was greater whatever the injury. The over-representation of males was very marked for wounds (sex-ratio 1.8) but much lower for fractures and sprains (sex-ratio 1.1).

Distribution of injuries according to age



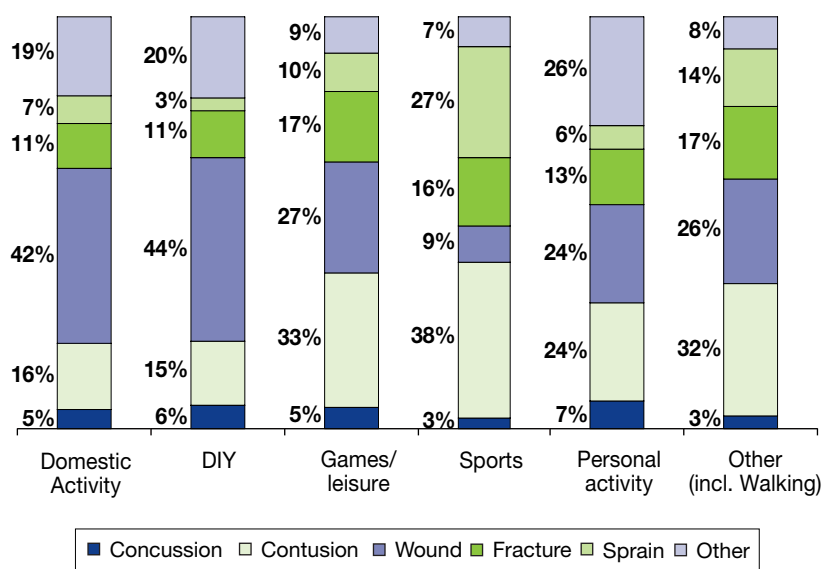
The incidence of contusions, common in children and young adults (approximately 31 to 37% of injuries in patients under the age of 20), decreased with age, accounting for only one in five HLIs in patients older than 45 years of age.

Wounds represented 34% of injuries in those under the age of 5, were less common in patients aged between 10 and 20 (one in six injuries), and represented only one quarter of injuries in people aged over 20.

Fractures were not common in very young patients (8% of injuries in children under 5), but the proportion of fractures increased in older patients to account for 39% of injuries from the age of 75 onwards.

Sprains occurred most commonly in patients aged between 10 and 25 (between 19 and 25% of injuries).

Distribution of injuries according to activity

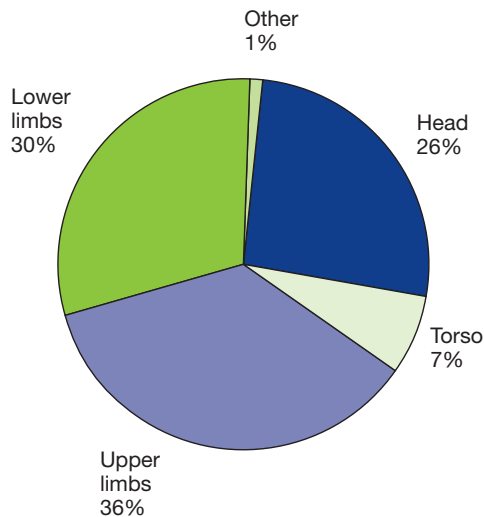


Wounds were the most common injury in all activities except sports and walking. For these activities, contusions occurred more frequently than other injuries (38% and 32%, respectively). Sprains, reported in more

than one quarter of sports accidents, were not common in other activities.

2.6 | Part of body injured

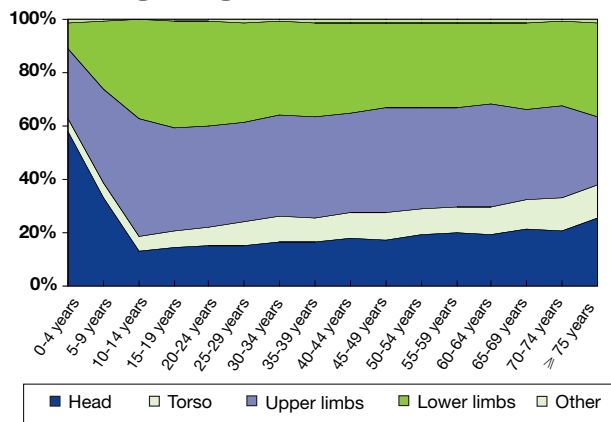
Distribution of HLIs according to part of body injured



The limbs were the part of the body most commonly affected in HLIs: 36% of injuries were to the upper limbs and 30% to the lower limbs. The third most common type of injury was head injuries (26%) followed by injuries to the torso, which occurred less frequently (7%). The other parts of the body (whole body or a number of parts of the body affected) accounted for only 1% of HLIs.

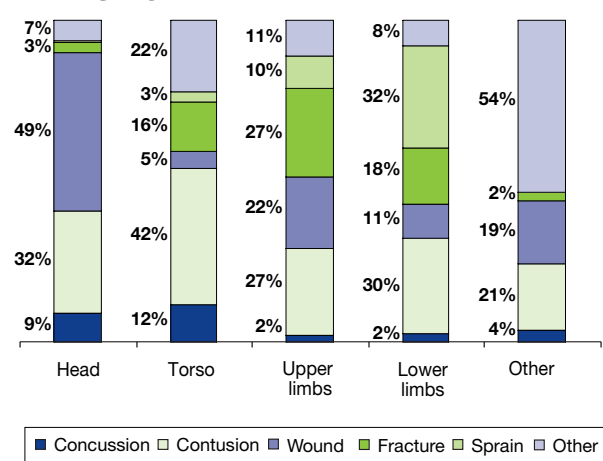
The distribution of injured parts of the body was the same in males as in females. There was a greater proportion of males in every category, with a more marked difference for the head (sex-ratio 1.6) than for the upper limbs (sex-ratio 1.3), lower limbs or torso (sex-ratio 1.1).

Distribution of parts of body injured according to age



In young children, the part of the body most often injured was the head (58% of HLIs in children under 5). This proportion decreased up to 10 years of age, then increased slightly up to the age of 75 (from 13% in 10- to 14-year-olds to 26% in patients over 75). In teenagers and adults, there was little variation in the distribution of parts of the body injured. The incidence of injuries to the torso increased with age, from 4% of the parts of the body injured between 0 and 4 years of age to 12% in patients aged 75 or over.

Distribution of injuries according to part of body injured



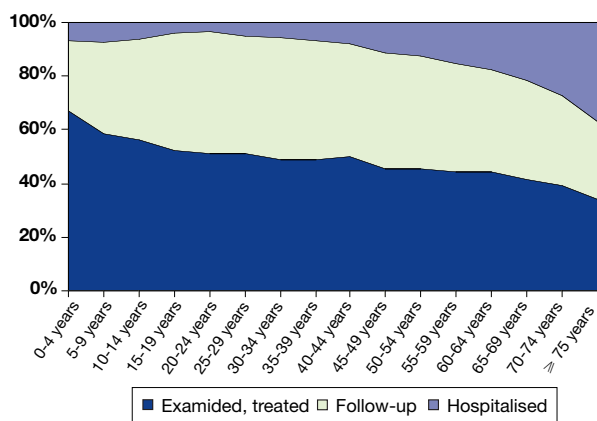
Contusions were the most frequent injuries, with proportions varying according to the part of the body injured: 27% of the HLIs affected the upper limbs, 30% the lower limbs, 32% the head and 42% the torso. In addition to contusions, fractures and wounds were common injuries to the upper limbs (27% and 22%, respectively), while the lower limbs most frequently suffered sprains (32%). The injuries to the head were wounds in almost half of cases (49%).

2.7 | Care, treatment, hospitalisation

In more than half (53%) of HLIs, no treatment was provided or the patient was discharged immediately after treatment. In 37% of HLIs, treatment was provided along

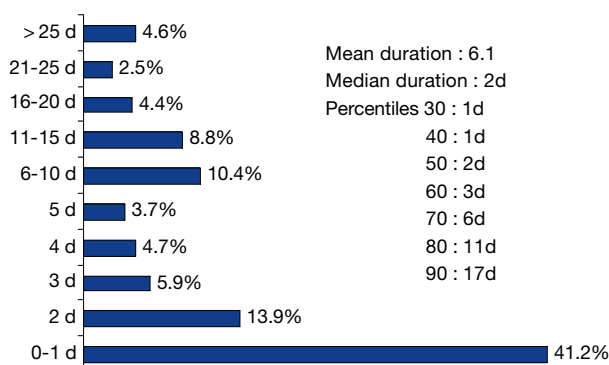
with follow-up care, either by a community doctor or by the hospital, while in 11% of cases hospitalisation was required.

Distribution of type of care provided according to age



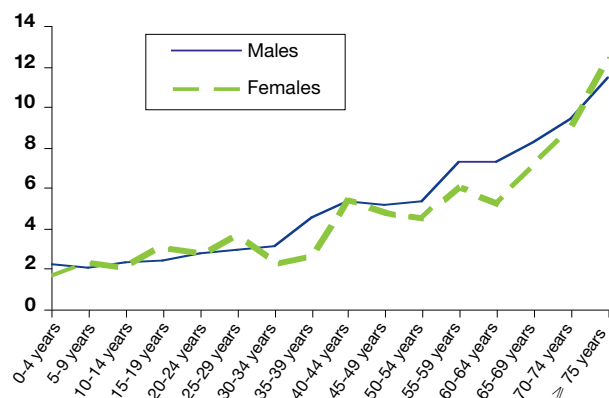
The hospitalisation rate increased significantly with age from 50 years of age, standing at 7% for injured patients under 5 and 4% for patients between 15 and 24 years of age, and increasing to 37% for injured patients aged 75 or over. The proportion of patients receiving treatment plus follow-up care was higher in patients between 0 and 29 years of age, increasing from 26% to 46% of HLIs, with a frequency decreasing to 29% in patients aged over 75. The percentage of injured patients who were only examined and treated decreased with age, varying from 67% in children to 34% in elderly people.

Number of days of hospitalisation (8,274 patients hospitalised)



For the 8,274 patients hospitalised, the mean duration of hospitalisation was 5.2 days and the median 2.0 days. This is because there was a large number of very short hospital stays and a small number of long hospital stays.

Mean duration of hospitalisation (in days) according to age and sex



The mean duration of hospitalisation increased with age: from 2 days for patients aged 0-4 years, it increased to 12 days in patients older than 75. It was significantly longer for females (7.6 days) than for males (4.7 days).

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