

PROGRAM:	ERASMUS+
ACTION / SUBPROGRAM:	Key Action 2 / Strategic Partnerships
PROJECT TITLE:	“OSH+ for the European Agriculture sector - Stimulating growth in rural areas through capacity building for providers (and beneficiaries) of occupational medicine and OSH services”
Intellectual Output :	O5 “Course 2 Training Materials - Occupational Physicians”
Module:	4 – Workplace accidents - consequences of exposing workers to occupational hazards

4 Module 4 – Workplace accidents - consequences of exposing workers to occupational hazards

Aoife Osborne, PhD (School of Agriculture and Food Science, University College Dublin)

Richard Wynne, PhD (Work Research Centre Dublin)

4.1 Introduction:

Aims of the Module:

- To provide an overview of workplace accidents in the EU-28 and workplace accidents in agriculture in Bulgaria, Greece, Ireland and Romania.

Overview of contents:

The key areas of this module are workplace accidents and agriculture workplace accidents statistics. This module has been organised in this sequence to allow the trainee to:

- 1) Become familiar with the statistics for both workplace accidents and agriculture workplace accidents.
- 2) Understand the differences between near misses, first aid cases, accidents and fatal accidents.
- 3) Be aware of the common agriculture workplace accidents in Bulgaria, Greece, Ireland and Romania

Learning outcomes:

After studying this module the trainee should be able to:

- Provide an overview of workplace accidents both in the EU-27 and in particular Bulgaria, Greece, Ireland and Romania.
- Identify and comprehend the definitions on near misses, first aid cases, accidents and fatal accidents.
- Provide an overview of agriculture workplace accident statistics in Bulgaria, Greece, Ireland and Romania.

4.1.1 Glossary

Term	Definition
Fatal accident at work	European statistics on accidents at work (ESAW) define fatal accidents at work as ‘those that lead to the death of the victim within one year’.
Non-fatal accident at work	European statistics on accidents at work (ESAW) define non-fatal accidents at work as ‘those that imply at least four full calendar days of absence from work’.
European statistics on accidents at work (ESAW)	Non-fatal and fatal accident at work in the EU collected within the framework of ESAW

<p>The following measurement units used in ESAW data are:</p>	<ul style="list-style-type: none"> - Numbers of accidents. - Percentages of accidents (in relation to different totals and breakdowns). - Incidence rates of accidents: number of accidents per 100,000 workers. - Standardised incidence rates: number of accidents per 100,000 workers adjusted for the relative sizes of economic sectors at EU level. (Eurostat, 2016b).
---	--

Background

Investigating occupational accidents and analysing factors relating to them is important in identifying areas of high risk and trends overtime, therefore, helping identify strategies for prevention. Comparing occupational accident statistics across countries can help identify countries with lower occupational accidents and consequently establish best practise in tackling occupational accidents.

Underreporting of non-fatal accidents is a common problem for some EU countries and this will become evident in the statistics provided below. Underreporting of accidents make it difficult to identify the interventions that are most needed.

How are accident statistics generated?

Data on accidents at work are collected in the framework of the administrative data collection 'European Statistics on Accidents at Work (ESAW)', on the basis of a methodology developed first in 1990 (Eurostat, 2016b). The ESAW methodology is in accordance with the ILO (International Labour Office) "Resolution concerning statistics of occupational injuries (resulting from occupational accidents)" adopted by the Sixteenth International Conference of Labour Statisticians in October 1998 (Eurostat, 2016b).

The following variables must be sent by Member States to Eurostat from reference year 2011 onwards on an annual basis:

1. Case number
2. Economic activity of the employer (NACE)
3. Occupation of Victim (ISCO)
4. Age of Victim
5. Sex of Victim
6. Type of Injury
7. Part of Body Injured
8. Geographical Location of the Accident
9. Date of the Accident
10. Time of the Accident (optional)
11. Size of the Enterprise (optional)
12. Nationality of the Victim (optional)
13. Employment Status of the Victim
14. Days Lost (severity)
15. Weight ESAW collection

In addition, three of the following nine phase III variables on 'causes and circumstances of the accident' have to be sent annually to Eurostat from reference year 2013 onwards:

16. - 18. Workstation, Working Environment, Working Process
19. - 20. Specific Physical Activity, Material Agent associated with the of Specific Physical Activity
21. - 22. Deviation, Material Agent associated with the Deviation
23. - 24. Contact - mode of injury, Material Agent associated with the Contact - Mode of injury. (Eurostat, 2016b)

All economic sectors according to NACE Rev. 2 should in principle be covered from reference year 2013 onwards (Eurostat, 2016b). The NACE sectors are (all branches, at one digit level):

- A agriculture, forestry and fishing
- B mining and quarrying
- C manufacturing
- D electricity, gas, steam and air conditioning supply
- E water supply; sewerage, waste management and remediation activities
- F construction
- G wholesale and retail trade; repair of motor vehicles and motorcycles
- H transportation and storage
- I accommodation and food service activities
- J information and communication
- K financial and insurance activities
- L real estate activities
- M professional, scientific and technical activities
- N administrative and support service activities
- O public administration and defence; compulsory social security
- P education
- Q human health and social work activities
- R arts, entertainment and recreation
- S other service activities
- T activities of households as employers; undifferentiated goods- and services- producing activities of households for own use
- U activities of extraterritorial organisations and bodies

Data delivery for sectors T and U is voluntary (Eurostat, 2016b).

Eurostat receives ESAW data from the relevant national authority or insurance system (administrative data sources). The original national data sources are employers' declarations of accidents at work, either to (1) relevant insurance companies, (2) national social security systems or (3) labour inspectorates or similar national authorities. For non-fatal accidents in the Netherlands only survey data are available (a special module in the national labour force survey) (Eurostat, 2016b).

The number of employed persons (reference populations) are provided either by the countries (at NACE 2-digits level), or are taken from the EU Labour Force Survey (when countries are not able to provide their own reference populations) (Eurostat, 2016b).

Defining the agriculture sector

Module 1 presented an overview of agriculture and its importance as an economic sector. It presented detailed information on the EU28 in relation to employment by occupation and sector, distribution of workers across economic sectors by company size, employed people, and sex. The Agriculture sectors were explored in detail in Module 2. These included; Apiculture, Sericulture (silkworm farming), Fish-farming, Aquaculture, Mollusk farming (Heliciculture), Bovine animals (cattle), Ovine (sheep), Caprine (goat), Swine (pigs), and Poultry. Module 3 explored and identified specific workers characteristics that places agriculture workers at risk. Some of these risks are also further explored in more detail in later modules.

4.2 Accidents statistics and their interpretation

Definition of Accident at work by EUROSTAT.

European Statistics on Accidents at Work (ESAW) are based on case-by-case data for accidents at work resulting in more than 3 days' absence from work, permanent incapacity or death of the victim (Eurostat, 2016b).

European Statistics on Accidents at Work defines an accident at work as 'a discrete occurrence in the course of work which leads to physical or mental harm. This includes all accidents in the course of work, whether they happen inside or outside the premises of the employer, on the premises of another employer, in public places or during transport (including road traffic accidents or accidents in any other mean of transportation) and at home (such as during teleworking). It also includes cases of acute poisoning and wilful acts of other persons; It excludes: accidents on the way to or from work (commuting accidents); deliberate self-inflicted injuries; occurrences caused solely by a medical condition (such as heart attack or stroke) that occurred during work, i.e. which were not (at least partially) caused by the occupational activity of the victim;; accidents to members of the public, for example family members of a worker who are not working; and occupational diseases'(Eurostat, 2016b).

ESAW defines a fatal accident at work as: 'an accident which leads to the death of a victim within one year of the accident. In practice the notification of an accident as fatal ranges from national registration procedures where the accident is registered as fatal when the victim dies during the same day (Netherlands) or within 30 days after the accident (Germany) to cases where no time limits are laid down (Belgium, Greece, France except for deaths occurring after the recognition of a permanent disability, Italy, Luxemburg, Austria, Sweden and Norway). For the other Member States the time limit is one year, except for Spain where the limit is 1,5 years after the date of the accident. In a typical fatal accident at work, the death occurs within a few days after the day of the accident and the limitation to the day of the accident would result already in a significant underestimation of such very severe accidents' (Eurostat, 2016b).

Interpreting accident statistics needs to be undertaken carefully. Comparing, for example, Data on men and women needs to take into account the type of work that people do, they type of contract that they may have and so on. A recent study on work by Eurofound, based on the fifth European Working Conditions Survey conducted in 2010 identified the following trends for men and women:

- Women and men are employed in different industries and occupations, under different contracts, often with pay differentials, and spending different amounts of time in paid and care work.
- Men spend on average 37.4 years, while women only 29 years in the labour market, a difference that is substantial when it comes to the compared pension rates achieved.
- There is a notable segmentation between men and women in the labour market: out of the 20 different occupational groups that employ the highest number of workers only 5 present a gender balance, namely: food, wood and garment workers; numerical clerks; legal, social and cultural professionals; business professionals; and personal service workers.
- The public sector is important for female-dominated occupations. Women tend to be over-represented in the public sector, even within the male dominated occupations (Figure 1 below).
- Women are also over-represented in part-time jobs, with both positive and negative consequences.
- In terms of the quality of jobs, men's salaries are higher in all occupations, with the disparities being more prominent in white-collar male dominated ones; however, intrinsic job quality differences are less pronounced than other job quality dimensions.
- Well-being is greater for men across life stages; in addition, the well-being of women who have left the labour market is lower than that of those who have not.
- In terms of time spent on paid work, men work 41 hours, while women work 34 hours weekly. Men are more likely to work longer than the 48 hours set by the EU Working Time Directive, but women in certain occupations (agriculture or the service industry) also work long hours (15% versus 7%); if unpaid work is involved, however, the picture changes dramatically.

(European Union, 2016).

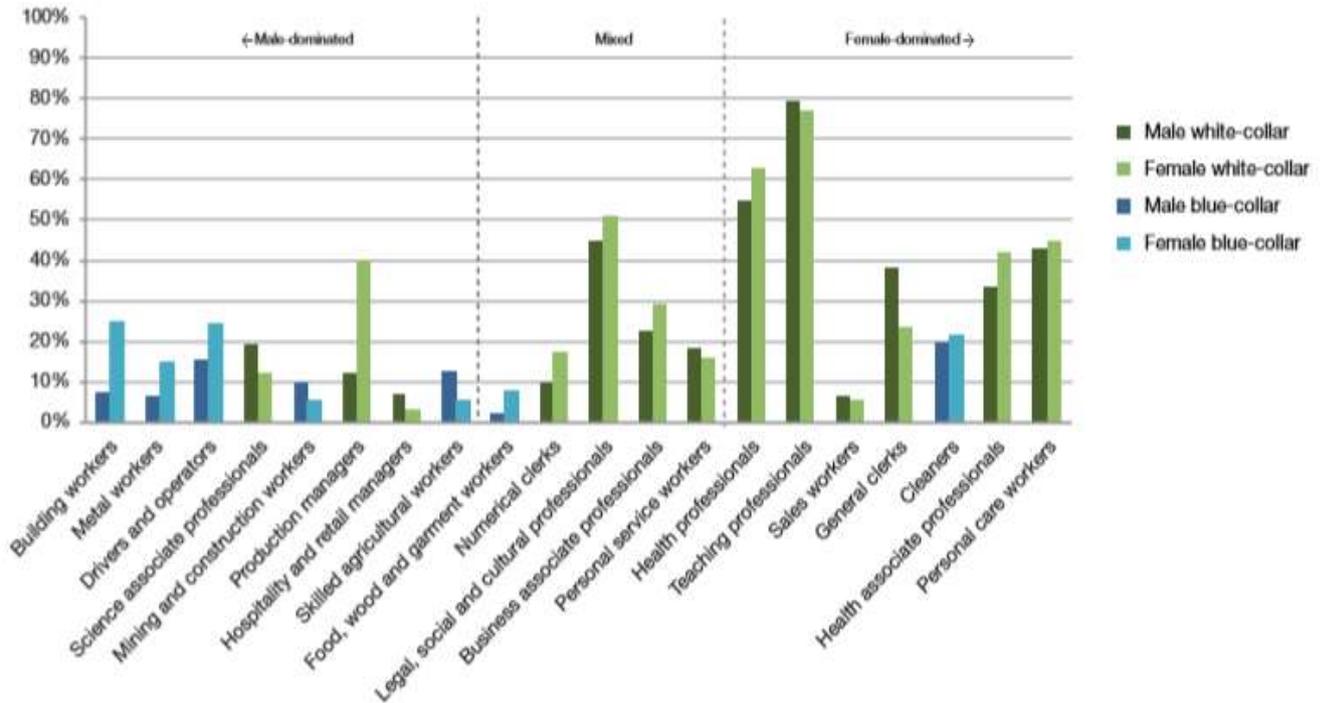


Figure 1: Proportion of workers in the public sector by gender and occupation (Source: Eurofound, 2013)

4.3 Statistics on workplace accidents in the EU-28

In order to provide accurate comparisons between countries it is important to use data that is collected in a similar manner. The following sections illustrating the statistics on workplace accidents in the EU-28 was taken utilizing a 2016 article from Eurostat on ‘Accidents at work statistics – Statistics Explained’. This full report is available to be viewed at:

http://ec.europa.eu/eurostat/statistics-explained/index.php/Accidents_at_work_statistics

According to Eurostat 2016 ‘In 2014, there were close to 3.2 million non-fatal accidents that resulted in at least four calendar days of absence from work and 3,739 fatal accidents in the EU-28, a ratio of approximately 850 non-fatal accidents for every fatal one’ (Table 1).

Table 1 Number of non-fatal and fatal accidents at work, 2014 (Source: Eurostat (hswn201) and (hswn202))

	Accidents at work involving at least four calendar days of absence from work			Fatal accidents at work
	Total	Men	Women	Total
EU-28	3 176 640	2 183 494	992 870	3 739
Belgium	65 587	46 812	18 771	52
Bulgaria	2 246	1 600	646	117
Czech Republic	42 306	29 797	12 509	118
Denmark	54 157	31 920	22 041	38
Germany	847 370	631 819	215 552	500
Estonia	6 288	4 097	2 191	16
Ireland	18 115	12 503	5 583	47
Greece	3 410	2 551	859	28
Spain	387 439	264 010	123 430	280
France	724 662	454 997	269 664	589
Croatia	11 669	7 686	3 981	26
Italy	313 312	226 263	87 049	522
Cyprus	1 613	1 145	468	5
Latvia	1 725	1 154	571	41
Lithuania	3 120	2 025	1 092	55
Luxembourg	7 183	5 701	1 482	10
Hungary	19 491	12 674	6 817	81
Malta	2 632	2 235	397	4
Netherlands	87 964	55 567	32 397	45
Austria	65 418	51 352	14 066	126
Poland	76 274	50 294	25 980	263
Portugal	130 153	93 003	37 150	160
Romania	3 396	2 629	767	272
Slovenia	12 314	9 312	3 002	25
Slovakia	8 552	5 910	2 642	40
Finland (*)	47 432	32 630	14 802	22
Sweden	35 296	19 596	15 700	40
United Kingdom	244 948	156 842	88 064	239
Iceland (*)	1 787	1 182	605	0
Norway	10 108	6 243	3 865	61
Switzerland	86 346	68 492	17 854	74

Note. Non-fatal accidents reported in the framework of ESAW are accidents that imply at least four full calendar days of absence from work (serious accidents). (*) 2013.

Between 2013 and 2014, there was an increase in the number of accidents at work in the EU-28, with 49 thousand more non-fatal accidents and 65 more fatal accidents (Eurostat, 2016). Men were considerably more likely than women to have an accident at work with more than two out of every three (68.7 %) non-fatal accidents at work involving men (Eurostat, 2016).

Analysing incidence rates of non-fatal and fatal accidents at work provides information in relation to the number of accidents to the overall number of persons employed i.e. the likelihood of a person employed having an accident (Eurostat, 2016). Non-fatal accidents at work ranged from less than 100 per 100,000 persons employed in Greece, Bulgaria and Romania to more than 3000 per 100,000 persons employed in France (Figure 2) (Eurostat, 2016). Fatal accidents at work ranged from less than 1.0 per 100,000 persons employed in Sweden, UK, Finland, Greece and the Netherlands to more than 4.0 fatal accidents per 100,000 in Bulgaria, Latvia, Lithuania and Romania (Figure 3) (Eurostat, 2016). Particularly low rates for certain EU member states could reflect under-reporting of non-fatal accidents however incidence rates of fatal accidents is different as it is more difficult to avoid reporting fatal accidents (Eurostat, 2016).

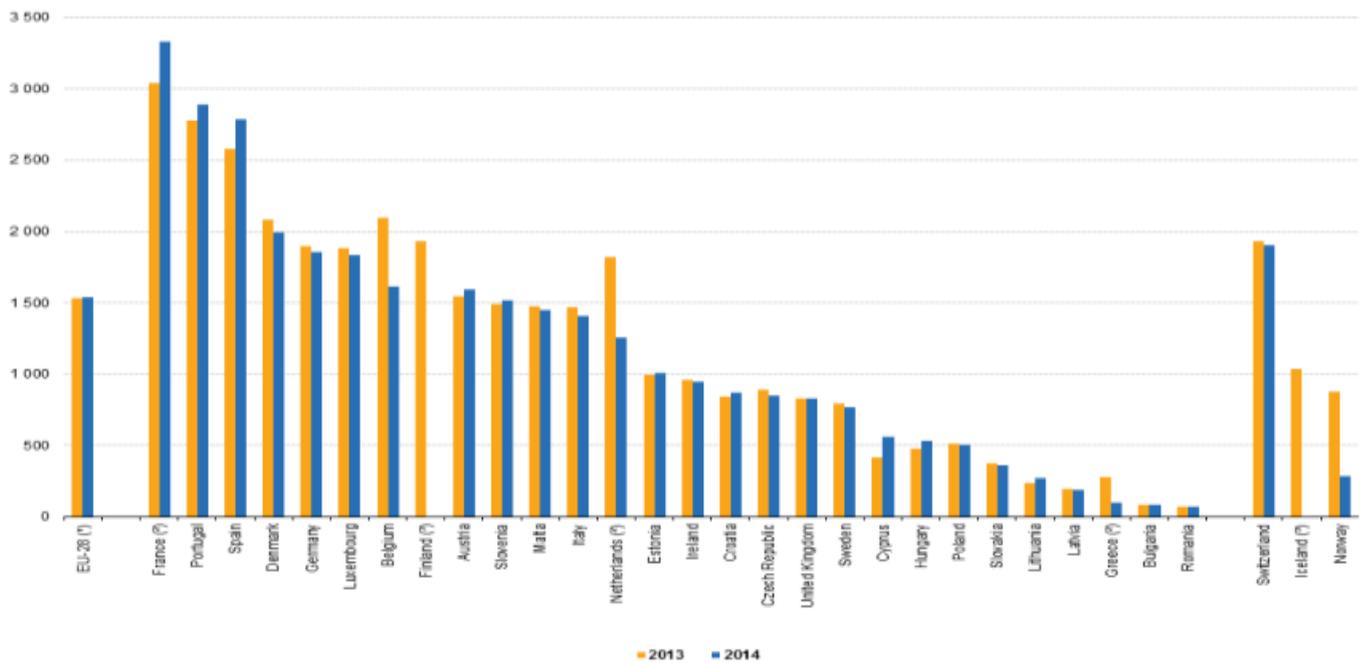


Figure 2 Non-fatal accidents at work, 2013 and 2014 incidence rates per 100 000 persons employed (Source: Eurostat (hswn202))

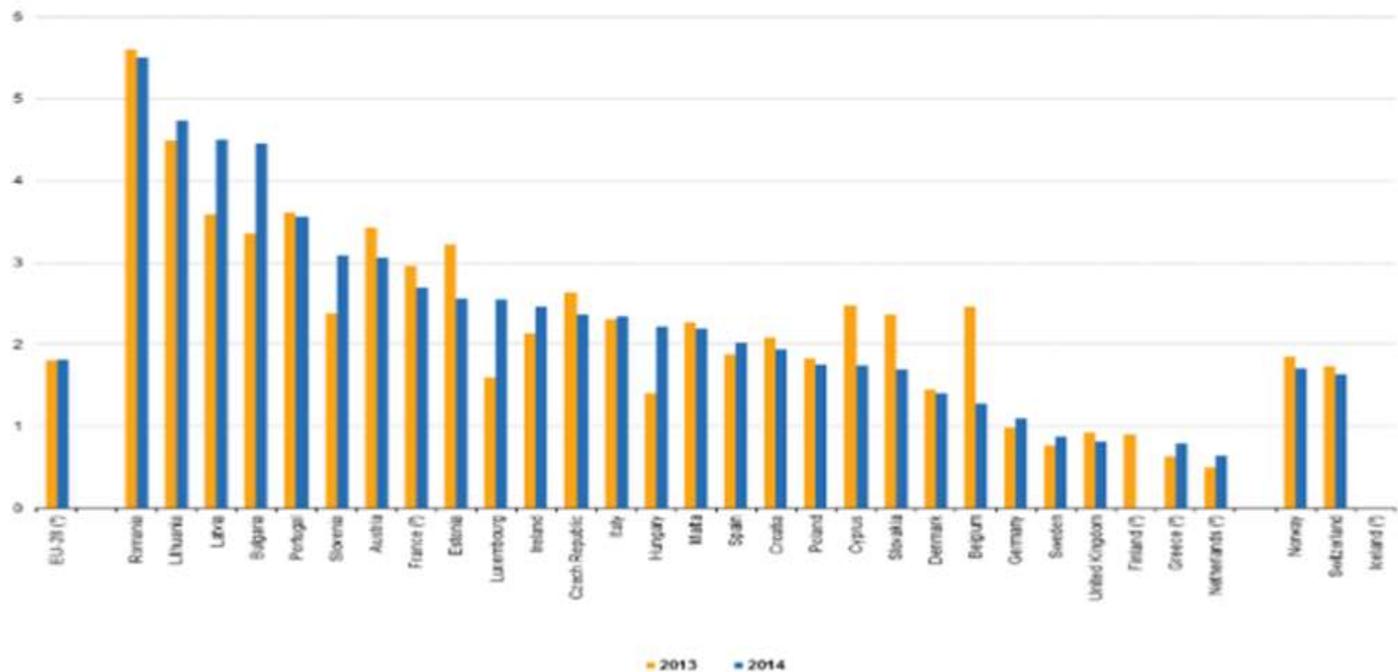


Figure 3 Fatal accidents at work, 2013 and 2014 incidence rates per 100 000 persons employed (Source: Eurostat (hswn202))

Analysing standardised incidence rates of non-fatal and fatal accidents at work provides information that gives a more neutral comparison of the health and safety situation in different countries (Eurostat, 2016). These assume that the relative sizes of economic activities with each national economy are the same as within the EU-28 as a whole (Eurostat, 2016). Non-fatal accidents at work in 2014 ranged from 3.6 thousand per 100,000 persons employed in Portugal to 75 non-fatal work accidents per 100,000 persons employed in Romania (Figure 4)(Eurostat, 2016). Like for incidence rates, the lower values for the standardised incidence

rates are thought to reflect a higher level of under-reporting (Eurostat, 2016). Fatal accidents at work in 2014 ranged from 7.1 deaths per 100,000 persons employed in Romania to 1.0 fatal accidents per 100,000 persons employed in the Netherlands (Figure 5) (Eurostat, 2016).

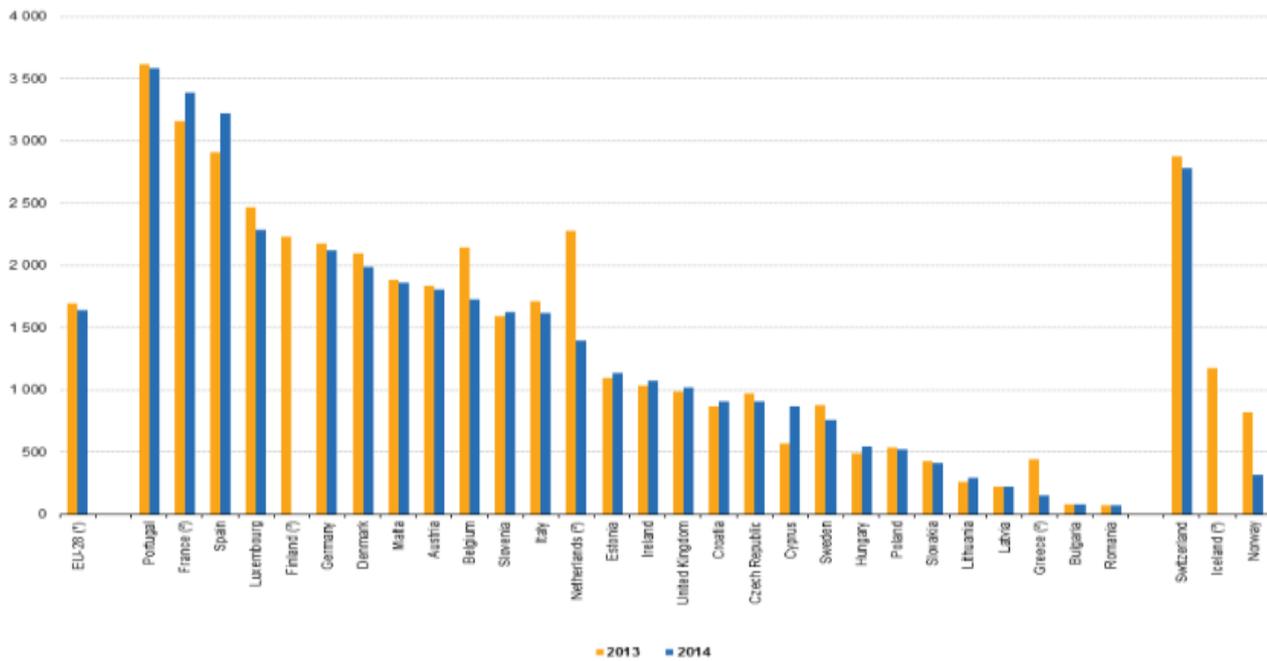


Figure 1 Non-fatal accidents at work, 2013 and 2014 standardised incidence rates per 100 000 persons employed (Source: Eurostat (hswmi01))

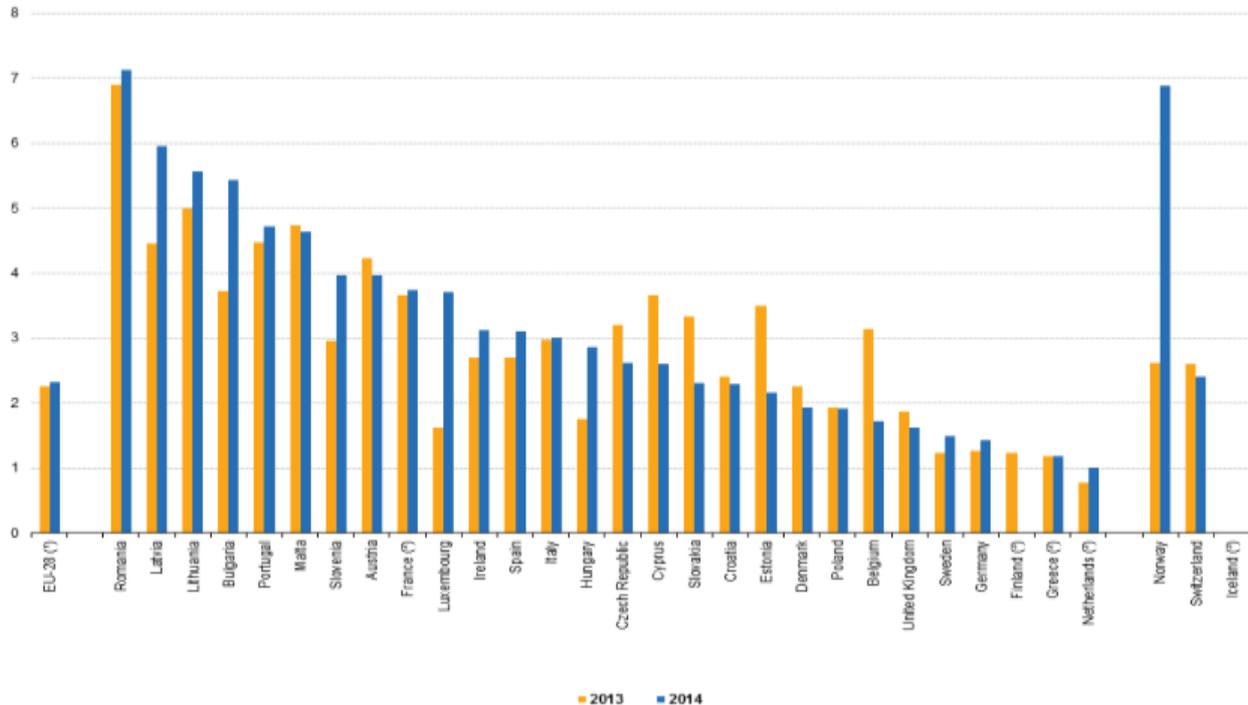


Figure 5 Fatal accidents at work, 2013 and 2014 standardised incidence rates per 100 000 persons employed (Source: Eurostat (hswmi01))

Economic activity can also influence the number of accidents at work (Figure 6) (Eurostat, 2016). Construction, transportation and storage, manufacturing, and agriculture, forestry and fishing sectors all

accounted for 44.9% of all non-fatal accidents at work and 67.2% of all fatal accidents at work in 2014(Eurostat, 2016).

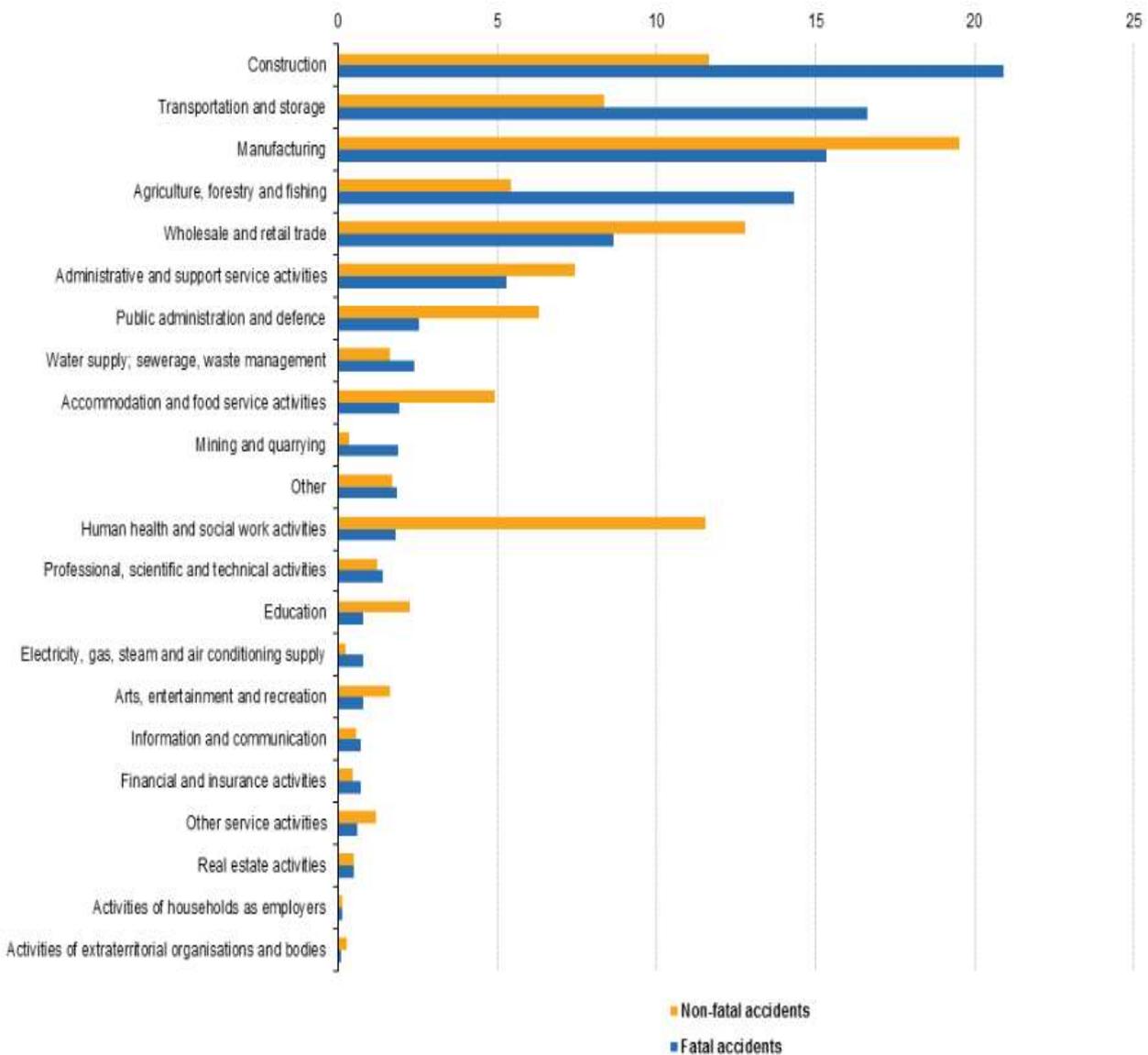


Figure 2 Fatal and non-fatal accidents at work by economic activity, EU-28, 2014 % of fatal and non-fatal accidents (Source: Eurostat (hswn201) and (hswn202))

Non-fatal and fatal accidents at work can also be broken down according to the type of injury sustained during the accident (Figure 7) (Eurostat, 2016). Data for the EU-28 for 2014 illustrate that wounds and superficial injuries (30% of the total) and dislocations, sprains and strains (27.2%) were the most commonly reported type of injury (Eurostat, 2016). This is followed by concussion and internal injuries (17.2%) and bone fractures (11.5%)(Eurostat, 2016).

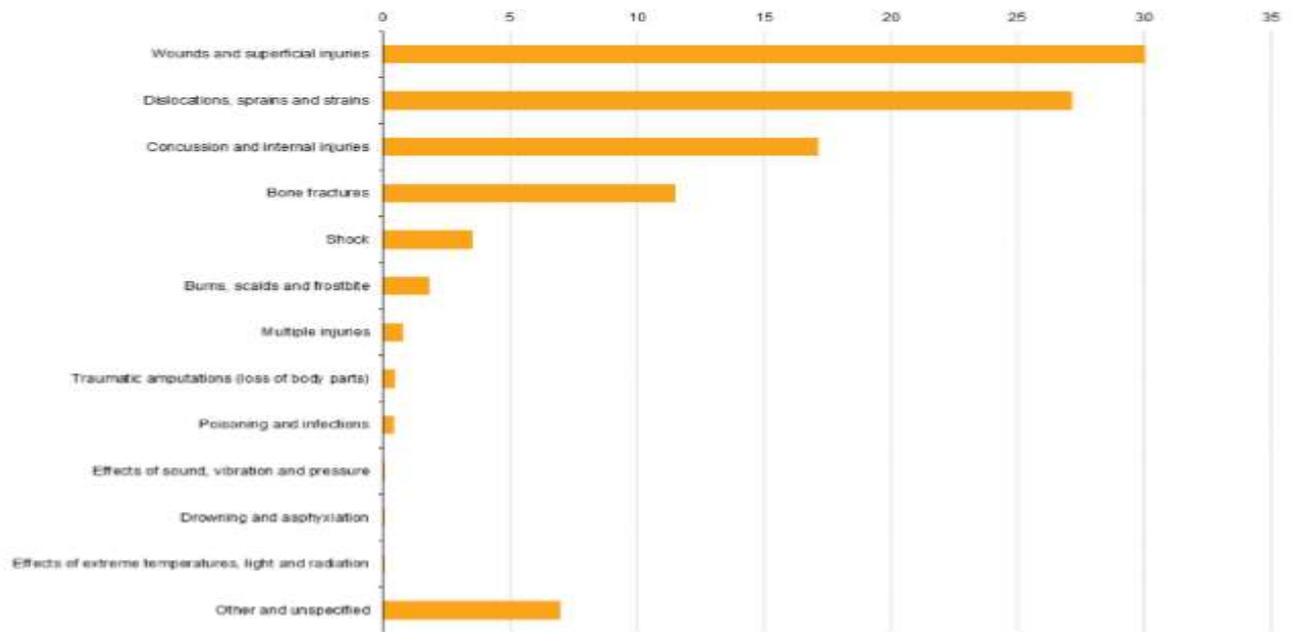


Figure 7 Fatal and non-fatal accidents at work by type of injury, EU-28, 2014 (Source: Eurostat (hswN207))

Non-fatal accidents at work can also be broken down according to age for 2014 (table 2).

Table 2 Non-fatal accidents at work by age, 2014 (Source: Eurostat (hsw-n2-03))

	Total	<18 years	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	≥65 years
EU-28	3,176,640	26,737	358,614	710,579	765,664	815,540	443,770	32,102
Belgium	65,587	377	8,320	17,072	16,835	15,936	5,774	119
Bulgaria	2,246	1	177	434	505	668	427	34
Czech Republic	42,306	169	6,324	9,250	11,241	9,005	6,052	265
Denmark	54,157	517	5,927	9,915	12,527	14,489	9,594	994
Germany	847,370	10,247	127,385	182,712	160,562	221,230	134,387	9,506
Estonia	6,288	15	975	1,462	1,162	1,364	1,128	184
Ireland	18,115	117	1,311	5,179	5,090	3,840	2,067	92
Greece	3,410	0	197	886	1,124	879	315	9
Spain	87,964	1,623	7,348	15,678	17,730	26,971	17,428	1,185
France	724,662	6,390	91,726	185,101	178,295	167,894	76,205	2,430
Croatia	11,669	11	964	2,834	3,019	3,101	1,682	21
Italy	313,312	979	19,549	54,258	86,665	93,590	50,410	6,213
Cyprus	1,613	7	146	435	365	384	265	11
Latvia	1,725	5	246	409	316	383	317	49
Lithuania	3,120	4	505	550	600	805	585	68
Luxembourg	7,183	9	520	1,646	2,134	2,163	699	12
Hungary	19,491	96	2,775	4,271	5,114	4,532	2,634	69
Malta	2,632	12	331	665	681	569	374	0
Netherlands	87,964	1,623	7,348	15,678	17,730	26,971	17,428	1,185
Austria	65,418	2,525	11,494	14,160	13,373	16,548	6,631	687
Poland	76,274	84	7,547	20,195	19,166	17,011	11,772	499
Portugal	130,153	66	10,437	29,004	37,171	33,342	16,676	1,695
Romania	3,396	5	349	732	975	884	439	12
Slovenia	12,314	8	907	3,360	3,335	3,523	1,173	8
Slovakia	8,552	24	1,165	1,965	2,092	2,019	1,251	36
Finland	:	:	:	:	:	:	:	:
Sweden	35,296	19	3,775	6,450	7,250	9,384	7,976	436
United Kingdom	244,948	3,070	26,803	51,667	55,521	63,058	37,692	6,689
Great Britain	:	:	:	:	:	:	:	:
Iceland	:	:	:	:	:	:	:	:
Norway	10,108	34	1,107	2,127	2,205	2,434	1,817	234
Switzerland	86,346	3,535	15,465	21,203	17,733	18,124	9,648	609

: = missing information

4.4 Statistics on workplace accidents situation in Bulgaria, Greece, Ireland, Romania

Bulgaria

In Bulgaria accidents are defined as:

- Any accident that happened in the workplace place that cause injury to the body.
- This includes traveling from the home to the working place in a period of one hour and travelling from working place to the home in a period of one hour.

In a period of 3 days, the owner of the working place (or directors, works manager) is obliged to report the accident to the National Insurance Institute. Fatal accidents must be reported immediately to the National Insurance Institute.

At a local level accident data are assessed from Occupational Health Services and administrative division. At a national level data are assessed from the National Insurance Institute.

In 2014, Bulgaria reported 2,246 non-fatal accidents at work and 117 fatal accidents at work (Table 1) (Eurostat, 2016). The standardised incidence rate of non-fatal accidents at work in Bulgaria was 82 work accidents per 100,000 persons employed in 2014 (Eurostat, 2016). The standardised incidence rate of fatal accidents at work in Bulgaria was 5.6 deaths per 100,000 persons employed in 2014, increasing from 3.7 deaths per 100,000 in 2013 (figure 4) (Eurostat, 2016).

Greece

In Greece, according to Circular No 45/24.6.2010 an occupational accident is a sudden violent incident which can cause death or incapability which has happened during work hours or due to work. It must be reported to the Social Insurance Institution within 5 days from the day it took place and it is reported by the employer or his/her representative.

In 2014, Greece reported 3,410 non-fatal accidents at work and 28 fatal accidents at work (Table 1) (Eurostat, 2016). The standardised incidence rate of non-fatal accidents at work in Greece was below 200 work accidents per 100,000 persons employed in 2014, reducing from just under 500 work accidents per 100,000 persons employed in 2013 (Eurostat, 2016). The standardised incidence rate of fatal accidents at work in Greece was 1.2 deaths per 100,000 persons employed in 2014 (figure 4) (Eurostat, 2016).

Ireland

Injury data in Ireland is collected in line with a European-wide methodology (ESAW) and accident reports are submitted to Eurostat (Statistical Agency of the European Commission) on an annual basis for the preparation of European comparator statistics. Accidents and dangerous occurrences are required to be reported to the Health and Safety Authority in line with the Safety, Health and Welfare at Work (Reporting of Accidents and Dangerous Occurrences) Regulations 2016 (S.I. No. 370 of 2016):

- Only fatal and non-fatal injuries are reportable. Diseases, occupational illnesses or any impairments of mental condition are not reportable.
- Fatal accidents must be reported immediately to the Authority or Gardaí. Subsequently, the formal report should be submitted to the Authority within five working days of the death.
- Non-fatal accidents or dangerous occurrences should be reported to the Authority within ten working days of the event.
- Injuries to any employee as a result of an accident while at work where the injury results in the employee being unable to carry out their normal work duties for more than three consecutive days, excluding the day of the accident, must be reported to the Authority.

(HSA, 2016b)

Data analysis is based on the data from annual modules on Work-Related Accidents and Illness that are collected by the Central Statistics Office (CSO) as part of the Quarterly National Household Survey (QNHS) and on data collected by the Health and Safety Authority (HSA) on fatal and non-fatal injuries based on employers' reports. This data is available through reports available on their websites.

In 2014, Ireland reported 18,115 non-fatal accidents at work and 47 fatal accidents at work (Table 1) (Eurostat, 2016). The standardised incidence rate of non-fatal accidents at work in Ireland was 1100 work accidents per 100,000 persons employed in 2014, increasing slightly from 2013 (Eurostat, 2016). The standardised incidence rate of fatal accidents at work in Ireland was 3.1 deaths per 100,000 persons employed in 2014 which also increased slightly from 2013 (figure 4) (Eurostat, 2016).

Romania

In Romania, accidents are defined as: violent body injury, as well as acute professional intoxication, that occur during work or in service duties and cause temporary incapacity for work of at least 3 days, disability or death - According to art. 5 (g) of the Occupational Safety and Health Act 319/2006. The employer has the responsibility for reporting an accidents.

Accessing analysis data in Romania are through:

- Ministry of Labour and Social Justice
- National Statistics System
- Eurostat

In 2014, Romania reported 3,396 non-fatal accidents at work and 272 fatal accidents at work (Table 1) (Eurostat, 2016). The standardised incidence rate of non-fatal accidents at work in Romania was 75 work accidents per 100,000 persons employed in 2014. The standardised incidence rate of fatal accidents at work in Romania was 7.1 deaths per 100,000 persons employed in 2014 which also increased slightly from 2013 (figure 4)(Eurostat, 2016).

Non-fatal accidents at work by gender and age

Table 2 Non-fatal accidents at work by gender for EU-28, Bulgaria, Greece, Ireland and Romania, 2014 (Source: Eurostat (hsw-n201) and (hsw-n202))

	Total	Male	Female
EU-28	3,176,640	2,183,494	992,870
Bulgaria	2,246	1,600	646
Greece	3,410	2,551	859
Ireland	18,115	12,503	5,583
Romania	3,396	2,629	767

Table 3 Non-fatal accidents at work by age for EU-28, Bulgaria, Greece, Ireland and Romania, 2014 (Source: Eurostat (hsw-n2-03))

	Total	<18	18-24	25-34	35-44	45-54	55-64	≥65
EU-28	3,176,640	26,737	358,614	710,579	765,664	815,540	443,770	32,102
Bulgaria	2,246	1	177	434	505	668	427	34
Greece	3,410	0	197	886	1,124	879	315	9
Ireland	18,115	117	1,311	5,179	5,090	3,840	2,067	92
Romania	3,396	5	349	732	975	884	439	12

4.4.1 Distinctions and definitions on near misses, first aid cases, accidents, fatal accidents

Near misses:

A Near Miss is an event that, while not causing harm, has the potential to cause injury or ill health (Health and Safety Executive, 2014). It is an unplanned event that did not result in injury, illness, or damage but had the potential to do so i.e. a near miss.

First aid cases:

OSHA defines first aid “as any one-time treatment, and any follow up visit for the purpose of observation of minor scratches, cuts, burns, splinters, or other minor industrial injury, which do not ordinarily require medical care. This one-time treatment, and follow up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel”. First aid refers to medical attention that is usually administered immediately after the injury occurs and at the location where it occurred. It often consists of a one-time, short-term treatment and requires little technology or training to administer. First aid can include cleaning minor cuts, scrapes, or scratches; treating a minor burn; applying bandages and dressings; the use of non-prescription medicine; draining blisters; removing debris from the eyes; massage; and drinking fluids to relieve heat stress (OSHA).

Accidents:

The European statistics on accidents at work (ESAW) defines accidents as “a discrete occurrence during the course of work which leads to physical or mental harm” (ESAW, 2017).

Fatal accidents:

Fatal accidents at work can be defined as “those that lead to the death of the victim within one year” (ESAW, 2017).

4.5 Features of agriculture-related near misses, first aid cases, accidents, fatal accidents

Near misses:

A thin line exists between a near miss and non-fatal or fatal accident. Near misses go unreported in agriculture and therefore hard to record or track these events. Most farmers don't consider near-misses something worth pausing over.

First aid cases:

Are anything that requires a one-time treatment but do not require medical care. Examples include:

- Using non-prescription medications.
- Cleaning, flushing, or soaking wounds on the skin surface.
- Using wound coverings, such as bandages, Band-Aids, gauze pads, etc.
- Using hot or cold therapy.
- Using any totally non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts
- Using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars, or back boards).
- Drilling a fingernail or toenail to relieve pressure, or draining fluids from blisters.
- Using eye patches.
- Using irrigation, tweezers, cotton swab or other simple means to remove splinters or foreign material from areas other than the eye.
- Using finger guards.
- Drinking fluids to relieve heat stress.

(Source: file:///C:/Users/Aoife/AppData/Local/Microsoft/Windows/INetCache/IE/XEXFWGHG/First%20Aid%20Definition_01.pdf)

Accidents (fatal and non-fatal):

Agriculture accidents can range from a variety of activities including:

- Tractors, farm vehicles
- Machinery
- Livestock
- Drowning/ gas
- Falls from height
- Falling objects
- Timber related
- Electrocutation
- Etc.

Irish video case-study examples of non-fatal and fatal accidents can be viewed at:

http://www.hsa.ie/eng/Your_Industry/Agriculture_Forestry/Further_Information/Video_Index/

4.6 Statistics on workplace accidents in agriculture in Bulgaria, Greece, Ireland, Romania

Bulgaria

The total number of non-fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Bulgaria for the period 2008-2014 are as follows:

- 2008: 76
- 2009: 48
- 2010: 56
- 2011: 49
- 2012: 54
- 2013: 56
- 2014: 59

In 2014, 59 non-fatal workplace accidents were reported for agriculture, forestry and fishing in Bulgaria, 55 were reported for men and 4 for women. Of the 59 non-fatal accidents reported, 26 occurred from bone fractures and 14 from wounds and superficial injuries (Figure 8).

The total number of fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Bulgaria for the period 2008-2014 are as follows:

- 2008: 5
- 2009: 1
- 2010: 8
- 2011: 6
- 2012: 11
- 2013: 3
- 2014: 8

In 2014, 8 fatal workplace accidents were reported for agriculture, forestry and fishing in Bulgaria. Of the 8 fatal accidents reported, 5 occurred from multiple injuries (Figure 9).

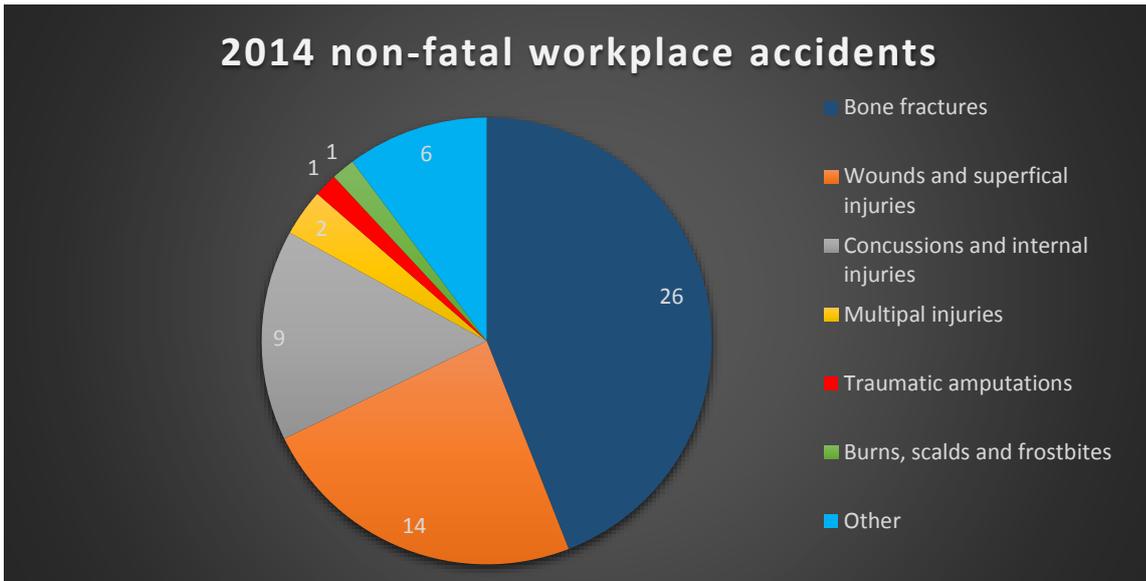


Figure 8: Non-fatal accidents at work for 2014 in the Agriculture, forestry and fishing sector by type of injury (Source: Eurostat [hsw_n2_07])

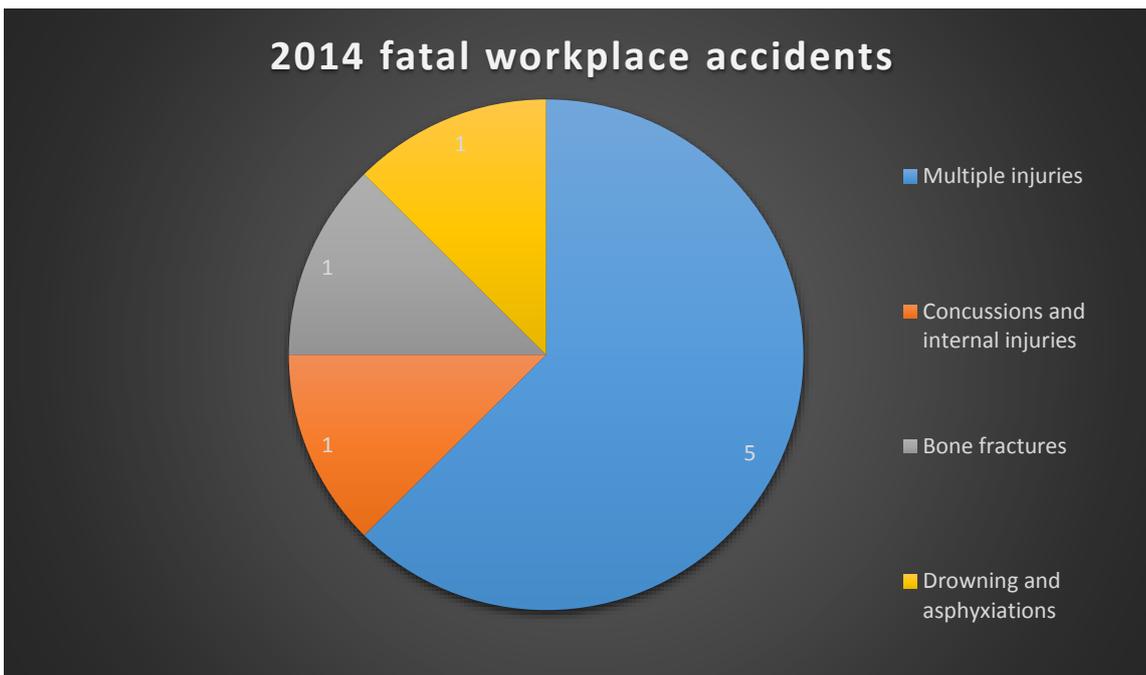


Figure 9: Fatal accidents at work for 2014 in the Agriculture, forestry and fishing sector by type of injury (Source: Eurostat [hsw_n2_07])

Underreporting is an important factor which should be taken into consideration with the reporting of occupational accidents especially concerning the agricultural sector.

Greece

The total number of non-fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Greece for the period 2008-2014 are as follows:

- 2008: 316
- 2009: 228
- 2010: 221
- 2011: 218
- 2012: 297
- 2013: 196
- 2014: 89

In 2014, 89 non-fatal workplace accidents were reported for agriculture, forestry and fishing in Greece, 83 were reported for men and 6 for women. Of the 89 non-fatal accidents reported, 41 occurred from bone fractures and 33 from wounds and superficial injuries (Figure 10).

The total number of fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Greece for the period 2008-2014 are as follows:

- 2008: 2
- 2009: 0
- 2010: 2
- 2011: 2
- 2012: 1
- 2013: 0
- 2014: 2

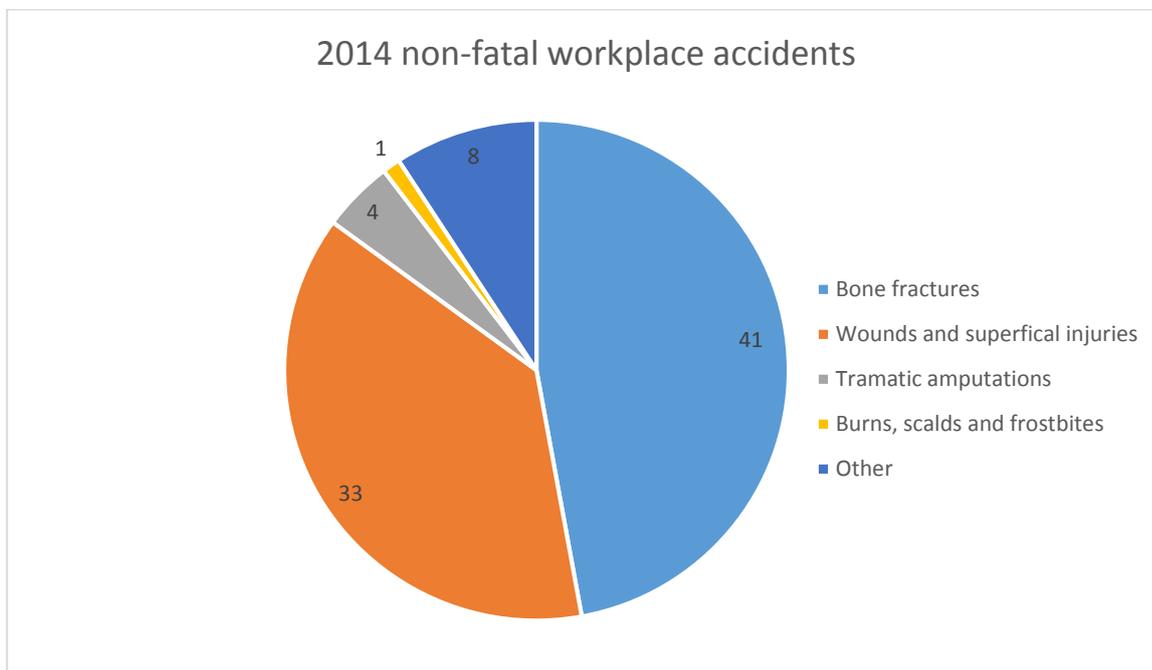


Figure 10: Non-fatal accidents at work for 2014 in the Agriculture, forestry and fishing sector by type of injury (Source: Eurostat [hsw_n2_07])

According to the latest report (2013-2014) by the Labour Inspectorate (SEPE) a total of 67 fatal work related accidents were reported to SEPE by the relevant authorities of which only 2 (29. 85%) concerned the agricultural sector (plant and animal production, hunting and other relevant activities). From the 5.126

reported to SEPE work related accidents in 2013-2014 only 40 (7.8%) concerned the agricultural sector (plant and animal production, hunting and other relevant activities). It is worth noting that the food production sector reported 265 work related accidents (51.7%).

According to the Labour Inspectorate (SEPE) in the first 7 months of 2016, 2000 occupational accidents were recorded of which 29 were fatal. In 2015 SEPE conducted 2816 inspections while 378 fines were given to companies which did not meet legislation requirements.

Underreporting is an important factor which should be taken into consideration with the reporting of occupational accidents especially concerning the agricultural sector.

Ireland

The total number of non-fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Ireland for the period 2008-2014 are as follows:

- 2008: 1929
- 2009: 306
- 2010: 986
- 2011: 382
- 2012: 554
- 2013: 2064
- 2014: 1968

In 2014, 1968 non-fatal workplace accidents were reported for agriculture, forestry and fishing in Ireland, 1648 were reported for men and 320 for women. Of the 1968 non-fatal accidents reported, 517 occurred from bone fractures and 492 from wounds and superficial injuries (Figure 11).

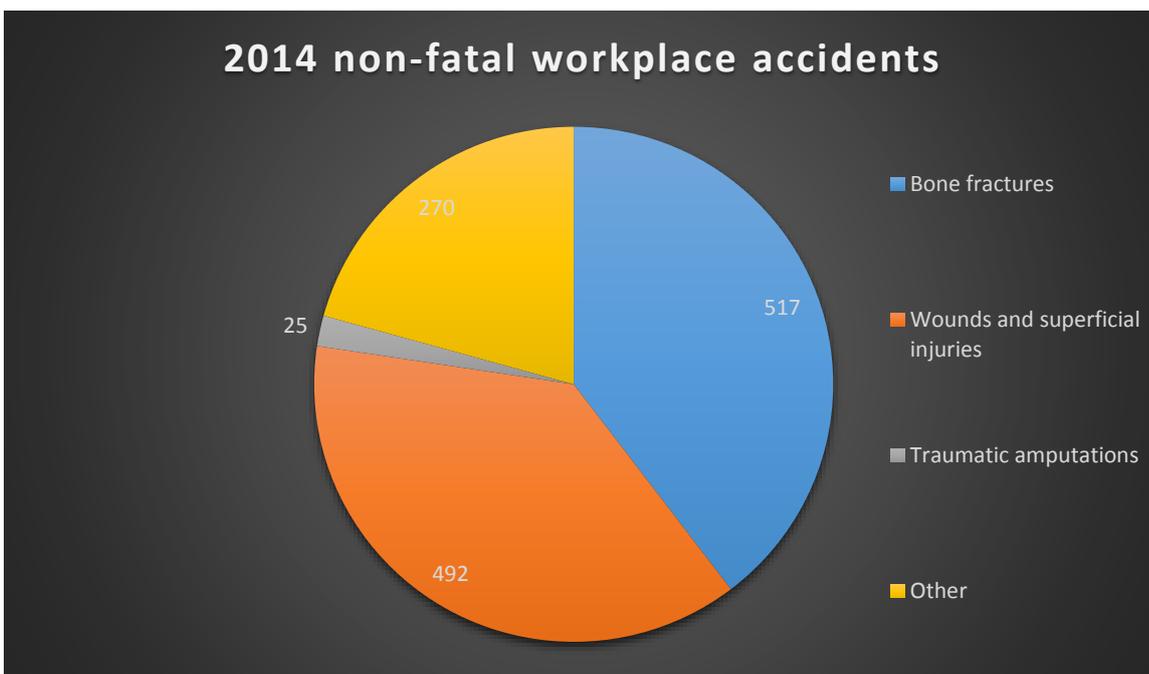


Figure 11: Non-fatal accidents at work for 2014 in the Agriculture, forestry and fishing sector by type of injury (Source: Eurostat [hsw_n2_07])

The total number of fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Ireland for the period 2008-2014 are as follows:

- 2008: 18
- 2009: 12
- 2010: 26
- 2011: 25
- 2012: 26
- 2013: 17
- 2014: 26

In 2014, 26 fatal workplace accidents were reported for agriculture, forestry and fishing in Ireland. Of the 26 fatal accidents reported, 13 occurred from multiple injuries (Figure 12).

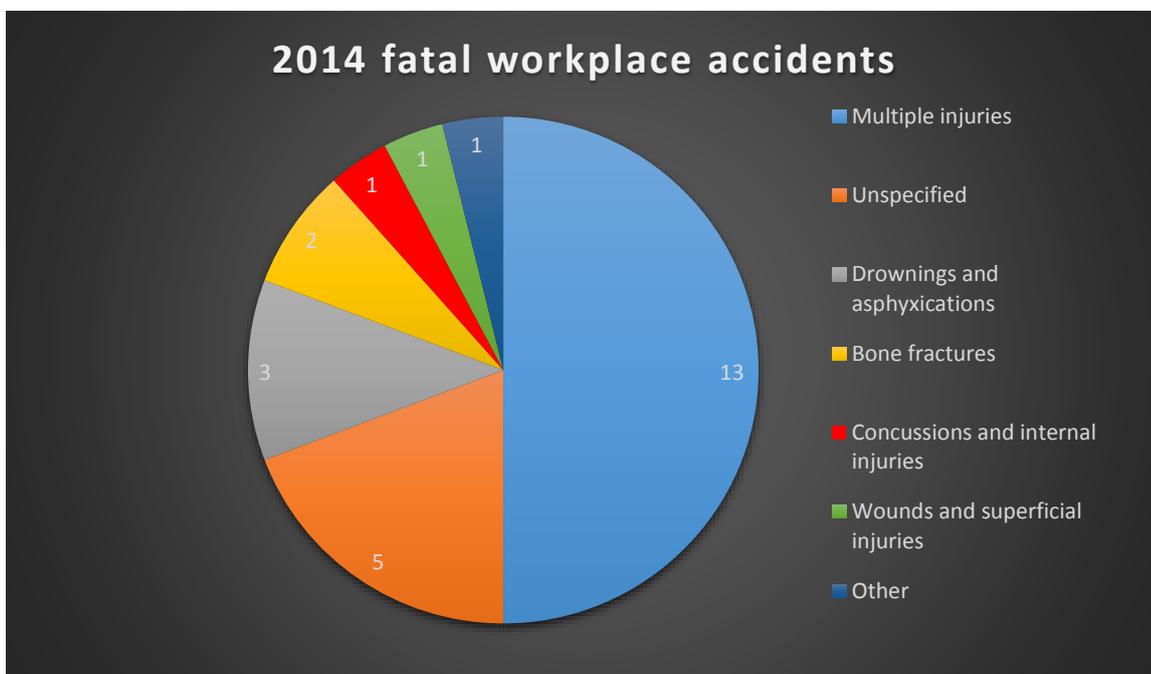


Figure 12: Fatal accidents at work for 2014 in the Agriculture, forestry and fishing sector by type of injury (Source: Eurostat [hsw_n2_07])

Between the years 1989 and 2015, 503 fatal accidents occurred in agriculture in Ireland. The rate of work-related fatalities per 100,000 workers across all sectors from 2009 to 2015 was 2.3 but in agriculture, fishing and forestry this rate was ten times higher, at 23 per 100,000 workers, with the majority of these occurring in agriculture (HSA, 2016). In 2015, almost one-third (32%) of all worker fatalities reported occurred in the agricultural sector alone while in 2014, the proportion was 54% (HSA, 2016). Figure 12 illustrates the main cause of deaths in agriculture in Ireland 2006-2015. Further breakdowns were reported in module 3.

In addition to high fatality rates, agricultural has one of the highest rates of non-fatal work-related injury compared to other sectors. Agriculture had the second highest average rate of injuries causing any days off work between 2010 and 2014 (34 per 1,000 workers compared to a rate of 22 across all sectors) (HSA, 2016). In 2014, 51 per 1,000 workers from the agricultural, fishing and forestry sector reported a work-related injury, making it the sector with the highest rate of non-fatal injuries for that year (HSA, 2016).

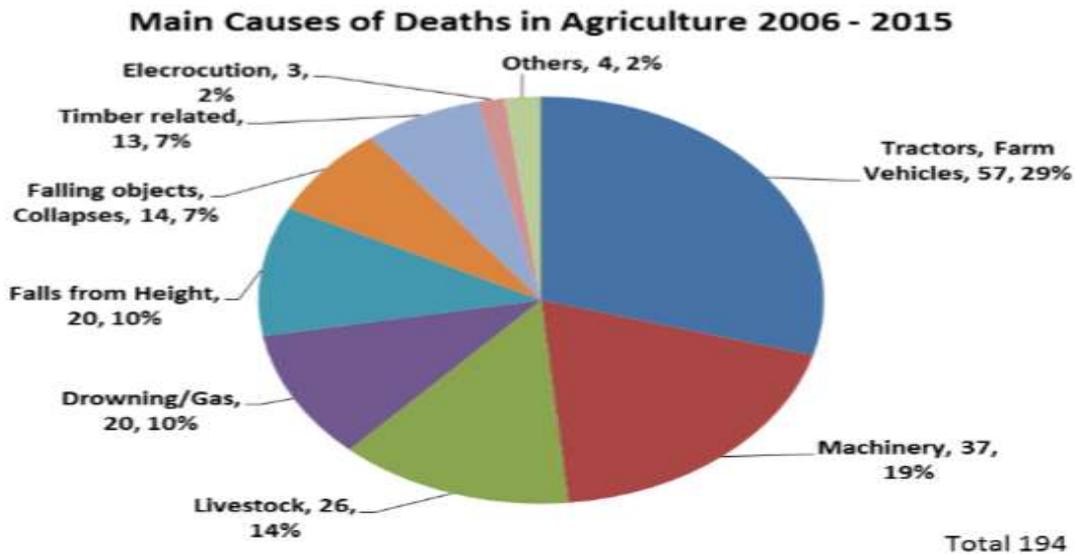


Figure 12 Main cause of deaths in agriculture in Ireland 2006-2015 (Source: HSA)

Romania

–

The total number of non-fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Romania for the period 2008-2014 are as follows:

- 2008: 145
- 2009: 124
- 2010: 121
- 2011: 116
- 2012: 120
- 2013: 115
- 2014: 112

In 2014, 112 non-fatal workplace accidents were reported for agriculture, forestry and fishing in Romania, 105 were reported for men and 7 for women. Of the 112 non-fatal accidents reported, 51 occurred from bone fractures, 22 from wounds and superficial injuries and 16 from concussions and internal injuries (Figure 13).

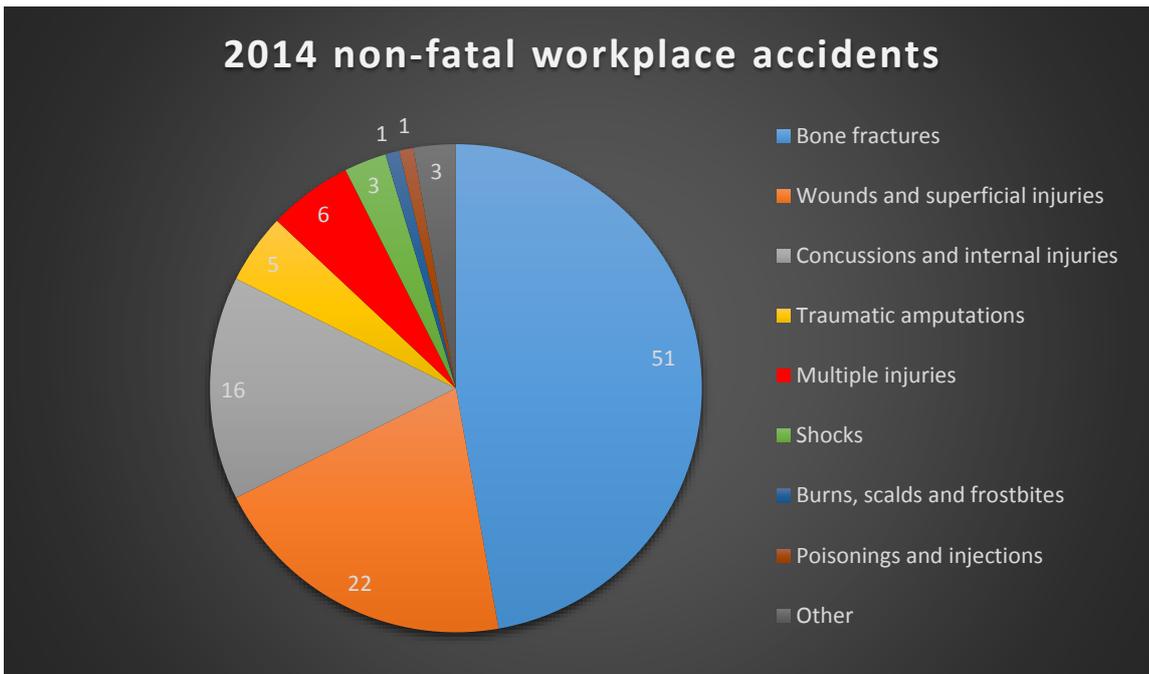


Figure 13: Non-fatal accidents at work for 2014 in the Agriculture, forestry and fishing sector by type of injury (Source: Eurostat [hsw_n2_07])

The total number of fatal work place accidents attributed to Agriculture, Forestry and Fisheries in Romania for the period 2008-2014 are as follows:

- 2008: 48
- 2009: 31
- 2010: 46
- 2011: 35
- 2012: 38
- 2013: 25
- 2014: 32

In 2014, 32 fatal workplace accidents were reported for agriculture, forestry and fishing in Romania. Of the 32 fatal accidents reported, 19 occurred from concussions and internal injuries, 7 from multiple injuries and 4 from bone fractures (Figure 14).

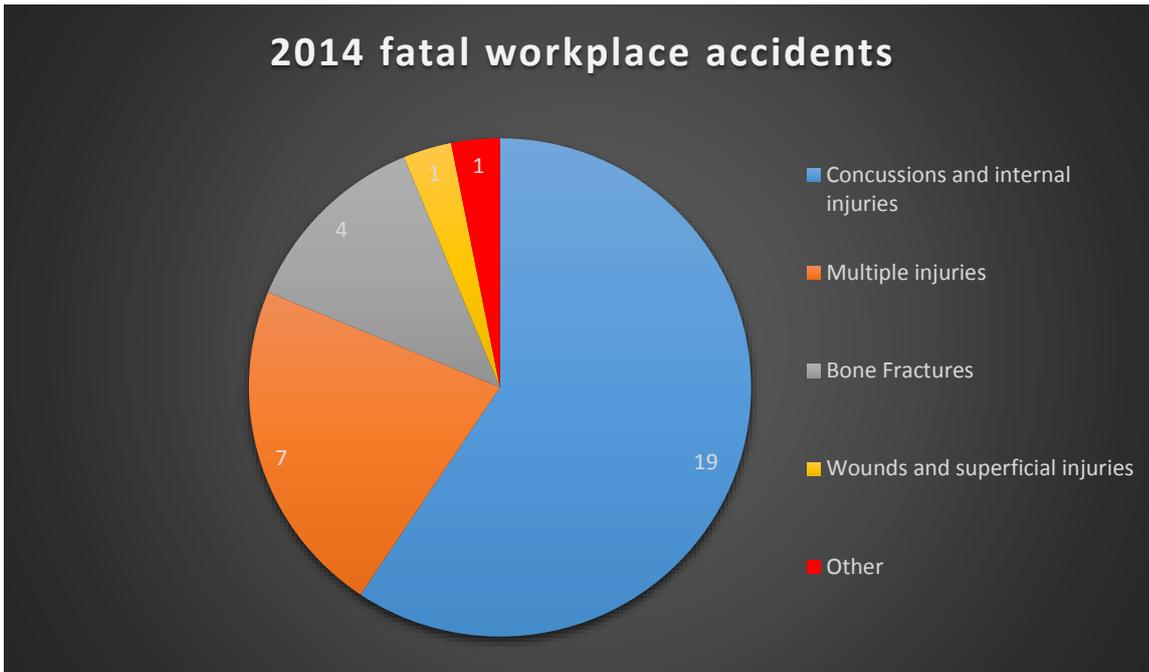


Figure 14: Fatal accidents at work for 2014 in the Agriculture, forestry and fishing sector by type of injury (Source: Eurostat [hsw_n2_07])

4.7 Conclusions and Recommendations

Conclusions:

Some of main conclusions that can be made on the basis of the accident data discussed in this chapter include:

- Workplace accidents in the EU-28 increased from 2013 to 2014.
- Non-fatal accidents are underreported in many EU-28 countries.
- Men were considerably more likely than women to have an accident.

- Construction, transportation and storage, manufacturing, and agriculture, forestry and fishing sectors all accounted for 44.9% of all non-fatal accidents at work and 67.2% of all fatal accidents at work in 2014.
- International comparisons between countries can point to Discrepancies in accident rates between countries. These may be due, for example, to factors such as problems with accident recording and reporting, differences in the type of work being undertaken in the sector or to differences in accident prevention practice. In any event, they point to the need to investigate further when designing strategies and actions to prevent accidents.

–

Recommendations:

A number of recommendations for occupational health professionals can be made on the basis of a comprehensive knowledge of accident statistics:

- Promote more accurate recording of accidents in the sector: Fatal accidents are relatively well reported, but the reporting of non-fatal accidents is more variable in quality. If possible encourage agriculture workers to report accidents at work.
- Use the available accident data to inform campaigns and other interventions in the sector.
- Provide agriculture workers with knoweldge around workplace accidents statistics in agriculture: ---
 - Men are more likely to have an accident than women.
 - Agriculture, forestry and fishing one of the highest reporting sectors for non-fatal and fatal accidents at work.
 - Provide descriptions (from national statistics, if available) of at risk groups, sub-sectorsand situations so that more effective prevention strategies can be developed.
- Use accident data to improve training for all workplace health professionals operating in the agricultural sector.

References

- 1) Eurofound (2013) 'Women, men and working conditions in the European Union'. Luxembourg: Publications Office of the European Union.
- 2) European Union (2016). 'Differences in men's and women's work, care and leisure time', available at [http://webcache.googleusercontent.com/search?q=cache:mSlixeHJOH0J:www.europarl.europa.eu/RegData/etudes/STUD/2016/556933/IPOL_STU\(2016\)556933_EN.pdf+&cd=3&hl=en&ct=clnk&gl=ie](http://webcache.googleusercontent.com/search?q=cache:mSlixeHJOH0J:www.europarl.europa.eu/RegData/etudes/STUD/2016/556933/IPOL_STU(2016)556933_EN.pdf+&cd=3&hl=en&ct=clnk&gl=ie), accessed 25 July 2017.
- 3) Eurostat (2016). 'Accident at work statistics – Statistics Explained', available at http://ec.europa.eu/eurostat/statistics-explained/index.php/Accidents_at_work_statistics, accessed 01 May 2017.
- 4) Eurostat (2016 b). 'Accidents at work (ESAW,2008 onwards)', available at http://ec.europa.eu/eurostat/cache/metadata/en/hsw_acc_work_esms.htm, accessed 25 July 2017.
- 5) Health and Safety Authority (HSA) (2016). 'Summary of workplace injury, illness and fatality statistics 2014–2015', available at http://www.hsa.ie/eng/Publications_and_Forms/Publications/Corporate/HSA_Statistics_Report_2014-2015.pdf, accessed 01 May 2017.
- 6) Health and Safety Authority (HSA) (2016b). 'HSA guidance on the safety, Health and welfare at work (reporting of accidents and dangerous occurrences) regulations 2016', available at: http://www.hsa.ie/eng/Publications_and_Forms/Publications/Safety_and_Health_Management/Guidance_on_the_Safety_Health_and_Welfare_at_Work_Reporting_of_Accidents_and_Dangerous_Occurrences_Regulations_2016.html, accessed 23 May 2017.
- 7) Health and Safety Executive (HSE) (2014). 'Investigating accidents and incidents- A workbook for employers, unions, safety representatives and safety professionals', available at <http://www.hse.gov.uk/pubns/books/hsg245.htm>, accessed 15 May 2017.
- 8) Occupational Safety and Health Administration. 'Medical and First Aid', available at <https://www.osha.gov/SLTC/medicalfirstaid/recognition.html>, accessed 25 May 2017