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Thematic note







September 2011 Ref. Eurogip - 66/E

Statistical review of occupational injuries

FINLAND

2008 data

Set of statistical data relating to accidents at work and occupational diseases in the European Union Member States



Foreword

This document sets out a descriptive synthesis of the main available statistical data about accidents at work, commuting accidents and occupational diseases of the considered EU Member State. It comes from the use by EUROGIP of various official publications from Member States. The data have been translated and presented according to the EUROGIP's knowledge of the analysed insurance system. These data have not been reprocessed by EUROGIP. For any confirmation, one has to refer to the source which is systematically given. Comments do not intend to give explanatory factors to the figures but only to describe the underlying system's characteristics in order to allow the reader to analyse them. Furthermore, Eurostat (Statistical Office of the European Communities) publishes, at European level, harmonised accidents at work data according to the ESAW (European Statistics on Accidents at Work) methodology in implementation of the 89/391/EEC framework directive. In order to complete national data, the last part of this document shows accidents at work structural indicators computed and published by Eurostat.

Acknowledgements

EUROGIP is grateful for the contribution of Mr Arto Miettinen from Statistics Finland, of Mr Juha Hemminki and Mr Mika Mänttäri from FAII, of Dr Panu Oksa and Mrs Anja Saalo of the Finnish Institute of Occupational Health to this statistical review.

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1. Main characteristics of the Finnish occupational injury insurance system

General principles

The first statutory occupational insurance law dates from 1895. The current law about accidents at work dates from 1948 and has been amended several times. The occupational diseases law dates from 1989 and was amended in 2003.

An employer is obliged to take out statutory workers' compensation insurance if he has employees who work for him for at least 12 days in a calendar year. The authorities in charge of health and safety at work monitor employer's compliance with this obligation. The statutory insurance policies are issued by private insurance companies which are entitled to insure occupational risks in Finland. This insurance covers accidents at work, commuting accidents and occupational diseases.

Insurance is compulsory for all wage earners from the private sector, for self-employed farmers (if the size of the farm exceeds five hectares), for some students and trainees. Self-employed workers may get insurance on a voluntary basis. Approximately 41 to 42 % of self-employed persons other than farmers have taken out an optional accident insurance policy.

The private insurance companies against occupational risks which are on the market are supervised by the Finance Supervisory Authority (Finanssilvalvonta¹) especially concerning their solvency.

Thirteen private companies are currently practicing. To be allowed to practice, an insurer must be chartered by TVL (FAII in English), i.e. the Federation of Accidents Insurance Institutions (Tapaturmavakuutuslaitosten liitto). The Federation coordinates insurance companies' activity and harmonizes their practices. In addition to these thirteen

¹ http://www.finanssivalvonta.fi/en/Pages/Default.aspx

companies there are the Farmers' Social Insurance Institution (MELA) for self-employed farmers and the State Treasury for civil servants. So FAII is strong of 15 member institutions.

Funding of the system

Insurance companies collect premiums, decide about compensations and pay the benefits.

Each insurance company has its own premium calculation bases. Nevertheless, there is a general principle of equilibrium between the cost of injuries and the premium paid. Calculation criteria take into account the company staff, its activity and, for the special tariff systems which are applied to larger companies, the company occupational injuries' track records.

The premium ranges from 0.3 % to 8 % of the total wages according to the employer's risks category. The average premium amount is less than 1 % of the total wages and is paid annually.

Notification of occupational injuries

The same forms are used to notify accidents at work, commuting accidents and occupational injuries to insurance companies.

The notification rate is considered to be close to 100 %.

About accidents at work and commuting accidents

All accidents at work and commuting accidents as well have to be notified even if there is no absence from work. The notification has to be done by the employer. This notification is sent to the Labour authority and to the insurer.

All accidents have to be notified without unnecessary delay. Fatal accidents and accidents generating serious after-effects have to be notified immediately to the above-mentioned authorities and to the police.

About occupational diseases

There is no fixed list of occupational diseases per se but the law lists exposure factors to which are associated the most frequent diseases caused by these factors². This means that an occupational disease is defined by law as an illness most likely caused by any physical factor, chemical substance or biological agent encountered in the course of work.

To be recognized as an occupational disease, the disease must be known within the medical field to be mainly caused by exposure to an identifiable exposure factor. The factor must be present and found in sufficient quantity in the injured person's working environment to be the probable cause of the victim's disease.

Any doctor has a duty to notify a suspected case of occupational disease. When an occupational disease is suspected, the patient's employer will be notified and the employer has to notify the case to his/her insurance company. If the exact insurance company is not known (e.g. diseases with long latency time), notification can be filed with any FAII member institution, which then has the duty to sort out which member institution is responsible for this particular case.

The suspected case is usually examined by the company doctor, specialised in occupational medicine. If further examinations are needed, he can consult some other specialist or send the patients to an occupational medicine clinic. Often this means FIOH³. The doctor issues a written diagnosis and an evaluation of whether this case is an occupational disease or not. This

written diagnosis and the evaluation together with any other required information are submitted to the insurance company. Based on all this information package, the insurance company then decides to recognize or not the case as an occupational disease, relying on their own medical doctor's review of all the gathered material. From the financial point of view, even if the case is determined not to be an occupational disease, examination costs up to this point are covered by the insurance company.

This procedure applies to every insurance institution (Mela, State Treasury and private FAII member companies). It means that, each insurance company, acting on findings of their own medical doctors, is the institutions in charge of recognizing occupational diseases.

The injured person may challenge the insurance company's decision and request the Appeal Board to overrule the insurance company's original decision.

For the past years, FIOH has published aggregated data about the diagnoses established by the 15 different insurance institutions. These data include cases of non-recognized occupational diseases as the statistical unit is the recording of an expense (medical examinations). For the first time in 2008 the number of recognized and the number of suspected cases have been presented separately.

Main occupational injuries' benefits

Compensation is paid by the insurance policy under which the victim falls at the moment of the occupational injury.

If the employer has neglected his obligation to insure, FAII pays compensation to the employee. FAII also compensates victims whose employers are not requested by law to insure themselves.

Benefits in kind

In case of an occupational injury, all medical costs, including transportation costs incurred by the victim, are taken in charge by the employers' insurance. In other respects, the costs of a medical examination requested by a labour doctor concluding on the absence of a causal link between the disease and the patient's

Please refer to page 53 of the following document: http://www.ttl.fi/en/publications/Electronic_publications/ /Documents/Occupational diseases 2002.pdf Theoretically, any disease may be an occupational disease if there is a causal link with an exposure factor.

FIOH is responsible for research in the field of health and safety at work and prevention of occupational risks. FIOH functions as a national centre for occupational diseases. It supervises occupational medicine diagnostics in University Hospitals (there are five of them in Finland) and supports occupational diseases outpatient services in Central Hospitals (just a few of them have an OD department). Examination of problematic occupational disease cases is centralised in FIOH.

working conditions are also taken in charge by the insurance⁴. Some material damages caused by an accident (glasses, hearing aid, dentures...) are also compensated.

Benefits in cash

Temporary disability

Daily benefits are paid, up to one year if necessary, as soon as the injured individual is fully or partially incapacitated for at least three consecutive days, excluding the day of the accident. For occupational diseases, the daily allowance period is determined on the basis of the date on which the victim visited the doctor for the first time in order to examine an illness that then or later is identified as an occupational disease.

Daily allowance for the first four weeks following the accident is the equivalent of the wage and salary payable during a period of illness. Starting with the 29th day, its amount equals to 1/360th of annual earnings (if annual earnings are very low, a flat rate reference base of 11,340 € is used as a calculation base).

The daily allowances may be paid directly to the victim or refunded to the employer when he is paying them himself to the victim.

Temporary disability allowances are subject to taxes.

Permanent disability

When the victim's capacity to earn a living is reduced of at least 10 % one year after the day of the accident at work or the day of the first appointment with a doctor in case of an occupational disease, a pension is granted.

For a partial disability, the pension's amount is proportionate to the disability degree. In case of a full disability, the pension amount is fixed to 85 % of the annual earnings reference base. After the age of 65, this rate lowers to 70 %.

The disability degree is determined by the insurance company on the basis of the medical certificate issued by the victim's doctor.

Pension is subject to taxes.

Handicap allowance

When the status of the injury has stabilised, at the earliest one year after the injury, permanent handicap is compensated for an amount proportionate to its severity. The victim may be eligible for a lump sum payment or for a pension in case of severe after-effects.

In case of mild after-effects, a lump sum payment is made.

Handicap allowances are not subject to taxes.

⁴ Nevertheless these cases will be recorded within the FAII statistics which are more financial statistics than technological statistics.

2. Statistical data sources

For Finland

TVL, the Federation of Accidents Insurance Institutions (FAII) provides general information about the Finnish occupational risks system in English and some statistics in Finnish: http://www.tvl.fi/www/page/tvl_www_1809

FAII compiles statistical data from all its member institutions. It forwards accidents at work and commuting accidents data to Statistics Finland. Accidents at work, commuting accidents and occupational diseases data are forwarded to FIOH.

Statistics Finland provides data about accidents at work and commuting accidents in English: http://www.stat.fi/til/ttap/index_en.html

FIOH the Finnish Institute of Occupational Health provides occupational diseases data in English: http://www.ttl.fi/en/health/Occupational_diseases/Pages/default.aspx

FIOH provides data about occupational injuries in Finnish: http://www.ttl.fi/fi/tilastot/tyotapaturmat_ammattitaudit_ja_sairauspoissaolot/sivut/default.a

The 2008 detailed occupational diseases data in Finnish with an English summary are available at:

http://www.ttl.fi/fi/verkkokirjat/ammattitaudit/Documents/29610_AM_taud_2008_WEB.pdf

For additional information, please visit: http://www.ttl.fi/en/pages/default.aspx

For Eurostat

Structural indicators on health and safety at work in Europe are available only for fatal accidents at work and accidents at work with more than three days away from work. Data are available under various formats: tables, maps and graphs, at the following web address: http://epp.eurostat.ec.europa.eu/portal/page/portal/health/health_safety_work

The ESAW (European Statistics on Accidents at Work) aiming to provide harmonised data about accidents at work with more than three days away from work is available at the following web address:

http://circa.europa.eu/Public/irc/dsis/hasaw/library?l=/statisstics_methodology/esaw_method ology/ke4202569 en pdf/ EN 1.0 &a=d

3. Main data

Structure of the Finnish labour force in 2010

Labour force status	Gender	in thousands
Population aged 15-74	Both genders	4,047
	- Men	2,026
	- Women	2,021
Labour force	Both genders	2,613
	- Men	1,365
	- Women	1,248
Employed	Both genders	2,430
	- Men	1,263
	- Women	1,167
Unemployed	Both genders	183
	- Men	102
	- Women	81
Total persons not in labour force	Both genders	1,434
	- Men	661
	- Women	773

Employment sector	in thousands
Total employment	2,430
- of which wage earners	2,102
- of which self-employed persons and unpaid family workers	328
Private sector	1,732
Public sector	690
- of which state wage earners	178
- of which municipality wage earners	512

Employment status	in thousands
Total wage earners	2,102
- of which permanent full-time	1,577
- of which permanent part-time	193
- of which fixed-term full-time job	237
- of which fixed-term part-time job	94
Total fixed-term job	331
Total part-time job	287

Source: Labour Force Survey 2010, September. Statistics Finland

The statistics detailed within this review cover a total working population of roughly 2,300,000 persons (2008 Labour Force Survey) including private and public sectors and farmers.

▼ In 2008, 320,952 companies were registered.

4. Accidents at work and commuting accidents

Statistics Finland compiles accidents at works data from FAII and MELA. The following data consider accidents for which insurance companies have paid compensation. These data include State and municipal employees (wage earners). The reference population is roughly of 2,300,000 persons.

Number of recognized and compensated accidents at work

	2006	2007	2008
Wage earners			
Less than 3 days ⁵	60,636	63,752	65,338
More than 3 days⁵	55,253	55,471	53,960
Fatal accidents	47	37	30
Total	115,936	119,260	119,328
Self-employed			
Less than 3 days ⁵	2,230	2,361	2,519
More than 3 days⁵	3,190	3,295	3,413
Fatal accidents	2	3	4
Total	5,422	5,659	5,936
Farmers			
Less than 3 days ⁵	942	1,028	786
More than 3 days⁵	5,019	4,759	4,453
Fatal accidents	5	8	7
Total	5,966	5,795	5,246
Grand Total			
Less than 3 days ⁵	63,808	67,141	68,643
More than 3 days⁵	63,462	63,525	61,826
Fatal accidents	54	48	41
Grand total	127,324	130,714	130,510

⁵ These are full days. More than 3 days means at least 4 days with a return to work no sooner than the fifth day after the day of the accident. Less then 3 days means up to three days off work.

Number of recognized and compensated commuting accidents

		2006	2007	2008
Wage earners				
Less than 3 days ⁶		9,049	9,283	11,501
More than 3 days ⁶		9,332	8,912	10,684
Fatal accidents		16	25	18
7	Total	18,397	18,220	22,203
Self-employed				
Less than 3 days ⁶		161	154	176
More than 3 days ⁶		274	274	276
Fatal accidents		1	3	1
7	Total	436	431	453
Farmers				
Less than 3 days ⁶		-	-	-
More than 3 days ⁶		-	-	-
Fatal accidents		-	-	-
7	Total	-	-	-
Grand Total				
Less than 3 days ⁶		9,210	9,437	11,677
More than 3 days ⁶		9,606	9,186	10,960
Fatal accidents		17	28	19
Grand to	otal	18,833	18,651	22,656

Source: Statistics Finland

Incidence and frequency rates for workers

2008 data

Incidence rate by occupation	Accident incidence rate ⁷
Construction	10,330
Food processing work	7,883
Agriculture and livestock work	6,912
Wood work	6,747
Metal machine work and building metal work	6,663
Occupations, total	2,428

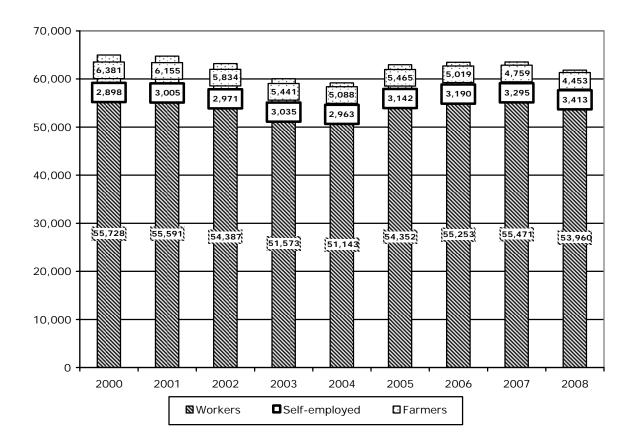
Please refer to note 5 on page 8
The accident incidence rate is the ratio of the number of accidents reported to the number of accidents. It is calculated for accidents that lead to more than three days of disability, fatal accidents excluded.

Frequency rate per activity branch (NACE ⁸)	Frequency incidence rate ⁹
Manufacturing of wood and wood products	37.9
Construction	35.4
Manufacture of fabricated metal products, except machinery and equipment	35.2
Postal and courier activities	32.9
Land transport and transport via pipelines	32.7
Industries, total	15.1

Source: Statistics Finland

Long-term trends

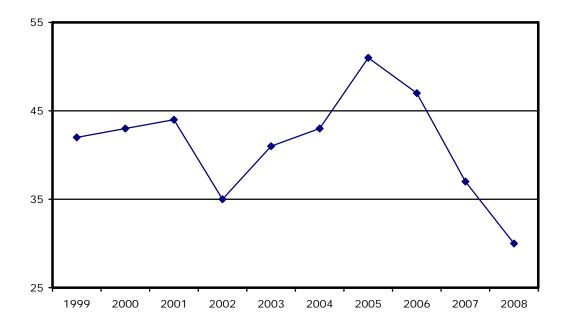
Recognized and compensated accidents at work in absolute value (at least 3 days away from work)



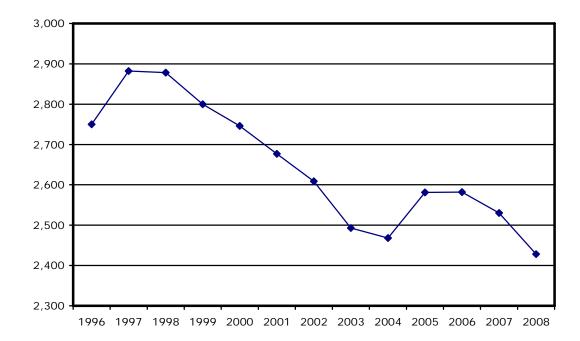
⁸ Statistical Classification of Economic Activities in the European Community

The frequency incidence rate is the ratio of the number of accidents reported to the number of worked hours. It is calculated per 1,000,000 hours worked. The frequency rate is mainly used in comparisons between different industries.

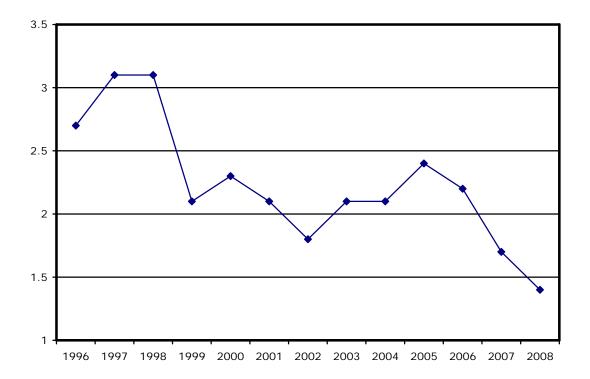
Workers' fatal accidents at work in absolute value (excluding self-employed and farmers)



Incidence rate of accidents at work with more than three days away from work – Number of accidents per 100,000 insured workers



Incidence rate of fatal accidents – Number of accidents per 100,000 insured workers



Notified accidents at work with more than three days away from work codified according to ESAW and distributed per gender

The following three tables consider accidents at work of more than three days away from work for workers. The ESAW variables: Specific Physical Activity, Deviation and Contact – Mode of Injury.

Additional tables may be found on the Statistics Finland website.

The variable **Specific Physical Activity** describes the victim's activity at the moment of the accident. The activity covers only a short period of time.

2008 data

Specific physical activity	Men	Women	Total
Operating machine	2,051	408	2,459
Working with hand-held tools	5,757	987	6,744
Driving/being on board a means of transport or handling equipment	1,038	267	1,305
Handling of object	7,934	2,760	10,694
Carrying by hand	7,059	3,002	10,061
Movement	12,507	6,636	19,143
Presence	746	489	1,235
Other specific physical activities not listed above	759	447	1,206
No information	860	253	1,113
Total	38,711	15,249	53,960

The variable **Deviation** describes the last event, deviating from normality, leading to the accident. This is a deviation from the normal working process. If there is a chain of events, the last deviation must be recorded i.e. the one which is the closest in time to the injuring contact.

2008 data

Deviation	Men	Women	Total
Electrical problems, explosion, fire	120	14	134
Overflow, overturn, leak, flow, vaporisation, emission	1,003	328	1,331
Breakage, bursting, splitting, slipping, fall, collapse of material agent	4,677	1,392	6,069
Loss of control (total or partial) of machine, means of transport or handling equipment, hand-held tool, object, animal	5,793	1,615	7,408
Slipping, stumbling and falling – fall of persons	11,091	5,283	16,374
Body movement without any physical stress (generally leading to an external injury)	6,693	2,060	8,753
Body movement under or without physical stress (generally leading to an internal injury)	7,059	3,162	10,221
Shock, fright, violence, aggression, threat, presence	489	730	1,219
Other deviations not listed in this classification	1,294	479	1,773
No information	492	186	678
Total	38,711	15,249	53,960

Source: Statistics Finland

The variable **Contact – Mode of injury** describes how the victim was hurt (physical or mental trauma) by the material agent that caused the injury. If there are several contacts, the one causing the most serious injury must be recorded.

2008 data

Contact – Mode of injury	Men	Women	Total
With electrical voltage, temperature, hazardous substances	991	446	1,437
Drowned, buried, enveloped	3	4	7
Horizontal or vertical impact with or against a stationary object (the victim is in motion)	10,504	5,079	15,583
Struck by object in motion, collision with	4,631	1,307	5,938
Contact with sharp, pointed, rough, coarse material agent	6,642	1,738	8,380
Trapped, crushed, etc.	4,686	1,399	6,085
Physical or mental stress	9,324	3,964	13,288
Bite, kick, etc. (animal or human)	383	661	1,044
Other Contact not listed in this classification	1,273	545	1,818
No information	274	106	380
Total	38,711	15,249	53,960

5. Occupational diseases

Insurance companies bear the cost of the medical examinations undertaken during the recognition procedure. In 2008, insurance companies recorded 6,330 occupational diseases recognition claims. These cases were medically assessed and led to an expense. It is this expense which triggers the statistical recording whatever the recognition decision is. In Finland these cases are labelled "suspected and recognized cases of occupational diseases" and are displayed this way in the Finnish statistical data. These are in fact claims for recognition.

Insurance companies are the institution in charge of recognizing occupational diseases and altogether they recognized and compensated 2,949 cases in 2008 out of the 6,330 processed files. This gives a 48 % recognition rate.

The following statistical tables come from FIOH which is compiling these data from those provided by the insurers through FAII and MELA. They show the 2008 data.

A) Claims for recognition

Per gender

Men	Women	Total
4,023	2,307	6,330

Diseases giving rise to the greatest number of claims for recognition

Discuses giving hise to the greatest number of claims for recognition						
Diseases	Claims ¹⁰	% compared to total				
Noise-induced deafness	1,500	23.70				
Asthma	734	11.60				
Pleural plaques	492	7.77				
Lateral epicondylitis (elbow)	414	6.54				
Allergic contact dermatitis	386	6.10				
Others	2,804	44.30				
Total	6.330	100.00				

Branches of activity recording the greatest number of claims for recognition

Activity branch (NACE ¹¹)	Claims ¹⁰	% compared to total
Agriculture, forestry and fishing	771	12.18
Construction	763	12.05
Human health and social work activities	645	10.19
Manufacture of fabricated metal products, except machinery and equipment	343	5.42
Public administration and defence; compulsory social security	325	5.13
Others	3,469	54.80
Branch unknown	14	0.22
Total	6,330	100.00

Source: FIOH - Finnish Register of Occupational Diseases (FROD)

¹⁰ These figures include the farmers' insurance data.

¹¹ Please refer to note 8 on page 10.

B) Number of recognized claims

Per gender

Men	Women	Total
2,216	733	2,949

Diseases most frequently recognized as occupational diseases

Diseases	Recognitions ¹²	% compared to total
Noise-induced deafness	1,050	35.61
Pleural plaques	421	14.28
Irritant contact dermatitis	204	6.92
Allergic contact dermatitis	194	6.58
Lateral epicondylitis (elbow)	189	6.41
Others	891	30.21
Total	2,949	100.00

Branches of activity recording the greatest number of recognized cases

Activity branch (NACE ¹³)	Recognition ¹²	% compared to total
Construction	465	15.77
Agriculture, forestry and fishing	431	14.62
Human health and social work activities	206	6.99
Manufacture of fabricated metal products, except machinery and equipment	168	5.70
Manufacture of paper and paper products	155	5.26
Others	1,513	51.31
Branch unknown	11	0.37
Total	2,949	100.00

Source: FIOH - Finnish Register of Occupational Diseases (FROD)

The FROD register

The data presented below come from the Finnish Register of Occupational Diseases (FROD)¹⁴, was established by the Finnish Institute of Occupational Health (FIOH) in 1964. Its objectives are to serve as a source of statistics on occupational diseases, and to promote research on occupational health.

The items recorded are suspected and recognized cases. A diagnosed case of occupational disease is the statistical unit of observation. It may be suspected and/or recognized diseases having incurred a medical examination's expense.

FROD's data come from MELA (farmers' insurance) and FAII. Each notification of a new case reported to the insurance companies as an occupational disease is forwarded to the Register. Information from these sources is combined so that each new permanent occupational disease is registered only once.

A recorded case of occupational disease contains identification data on the person, description of the disease (diagnosis, date of diagnosis), information on causes (exposures and exposure times) and information on severity.

http://www.ttl.fi/en/publications/Electronic_publications/Documents/Occupational_diseases_2002.pdf

¹² These figures include the farmers' insurance data.

¹³ Please refer to note 8 on page 10.

¹⁴ Please refer to page 50 of the following document:

Within the FROD data base, diseases are classified according to diagnosis and causes and organized in diseases' groups as showed in the following table.

Major groups of occupational diseases medically assessed during a recognition procedure

Diseases groups	2005	2006	2007	2008
Noise-induced hearing loss	1,548	1,731	1,626	1,498
Repetitive strain injuries	1,469	1,268	1,070	917
Allergic respiratory diseases	746	756	721	817
Skin diseases	1,243	1,277	1,186	1,226
Asbestos-induced diseases	807	733	782	760
Others	961	950	894	886
Number of diagnoses	6,774	6,715	6,279	6,104

Source: FIOH - Finnish Register of Occupational Diseases (FROD)

None of these figures include the suspected cases of the MELA farmers' insurance data but they do include their recognized cases.

6 Eurostat data

Structural indicators are available only for accidents at work. 2007 data are not available.

Index of the number of serious accidents at work per 100,000 persons in employment (1998 = 100) $^{(*)}$

Serious accidents - Total	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU (27 countries)	:	:	100	96	88	84	80	78	76
EU (25 countries)	100	100	99	95	87	82	79	77	75
EU (15 countries)	100	100	98	94	86	81	78	76	74
Finland	100	91	89	87 ^a	85	83	83	88	88

- (:) Not available
- (a) Break in series

Index of the number of fatal accidents at work per 100,000 persons in employment (1998 = 100) $^{(*)}$

Fatal accidents	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU (27 countries)	:	:	100	97	91	90	88	86	81
EU (25 countries)	100	88	87	85	80	78	75	72	72
EU (15 countries)	100	91	88	85	80	78	75	74	73 ^p
Finland	100	75	88	98 ^p	82	81	102	83	63

- (:) Not available
- (p) Provisory data

EU-15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom.

EU-25: EU-15 + Cyprus (without the northern part of the island), Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.

EU-27: EU-25 + Bulgaria and Romania.

^(*) The index shows the evolution of the incidence rate of fatal and serious accidents at work in comparison to 1998 (= 100). The incidence rate = (number of accidents with more than three days away from work or number of fatal accidents at work that occurred during the year/number of persons in employment in the reference population) x 100,000. An accident at work is a discrete occurrence in the course of work that leads to physical or mental harm. This includes accidents in the course of work outside the premises of one's business, even if caused by a third party, and cases of acute poisoning. It excludes accidents on the way to or from work, occurrences having only a medical origin, and occupational diseases. Fatal road traffic accidents and other transport accidents in the course of work are excluded.

Founded in 1991, EUROGIP is a French organization, whose activities are organized around five areas: enquiries, projects, information-communication, standardization and coordination of notified bodies. All have in common European aspects of the insurance or the prevention of accidents at work and occupational diseases.

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