

A R B E T S M I L J Ö

# STATISTIK

report 2007:3



## ISA

**The Swedish Information System on  
Occupational Accidents and  
Work-related diseases**



SWEDISH  
WORK  
ENVIRONMENT  
AUTHORITY



# **ISA**

**The Swedish Information System on  
Occupational Accidents and  
Work-related diseases**

© Arbetsmiljöverket  
Swedish Work Environment Authority  
Statistics Division, SE-171 84 Solna  
Sweden

Telephone:  
+46-(0)8-730 90 00  
Fax:  
+46-(0)8-730 19 67  
E-mail:  
arbetsmiljoverket@av.se

This report and other material can be accessed on [www.av.se](http://www.av.se)

Series: Arbetsmiljöstatistik (Work Environment Statistics)  
Publisher: Barbro Köhler Krantz, Head of Supervision  
Chief Statistical Officer: Elisabet Broberg, Head of Division  
English translation: Roger Tanner, Ordväxlingen AB  
Published in april 2007  
ISSN 1652-1110

## **ISA**

A new system for collecting information on occupational injuries and diseases, the Information System on occupational accidents and work-related diseases (ISA) was instituted in January 1979, under the authority of the National Board of Occupational Safety and Health. Until that date the Swedish Social Insurance Agency (formerly the National Social Insurance Board) had been responsible for the statistics on occupational injuries.

The purpose of ISA is to provide the basic information required for injury prevention measures at work. The system is based on the work insurance legislation, which requires employers to report occupational accidents and diseases to the Social Insurance Agency. The Swedish Official Statistics on occupational accidents and work-related diseases mainly encompasses the same population and nomenclature as the work injury insurance scheme.

## **History**

Official statistics on accidents at work have existed ever since 1906. From 1918 onwards, the National Social Insurance Board was responsible for them, and they were published from 1955 onwards in the series Sveriges officiella statistik (Swedish Official Statistics, SOS), under the heading (in Swedish) "Occupational injuries in 19xx".

The statistics had two purposes, namely as a basis for the setting of insurance contributions (commensurate with the risks entailed by the different types of work) and, secondly, as a basis for measures to reduce the number of accidents. In 1971 the graded charges were replaced by a uniform rate. The Occupational Injury Insurance Act was repealed on 1st July 1977, when the Work Injury Insurance Act came into force. Consequently the last period for which occupational injury statistics were reported was January-June 1977.

The structure of work injury statistics was investigated by a Government Commission between 1972 and 1976. As a result of the Commission's proposals, the Government and Riksdag (parliament) resolved that statistics of work injuries occurring in 1979 and subsequently were to be compiled by the National Board of Occupational Safety and Health (as from 2001 the Swedish Work Environment Authority) on the basis of the Information System on occupational accidents and work-related diseases (ISA).

## **Work injury insurance**

The Employment Injury Insurance Act was 1 July 1977 replaced by the Work Injury Insurance Act. All economically active persons, employees, employers and self-employed persons, regardless of nationality are insured for occupational injuries. Persons undergoing training are also insured for occupational injuries insofar as their training involves any such risk.

The work injury insurance scheme presents a general description of what is to be considered as occupational injuries. The concept is taken to comprise injuries resulting from accidents or other harmful influences at work. The term "harmful influence at work" refers to factors in the working environment that with a high degree of probability can be the cause of the type of injury that the insured has. The requirement for a high degree of probability was introduced in 1993. At the same time, the terms of the work injury insurance were tightened up in an additional respect. If it is clear that the insured has suffered an accident or some other harmful influence at work, his injury must be presumed to be a result from the harmful influence only if there are stronger grounds for such a presumption than the contrary. Before 1993 this rule of evidence was inversely formulated, i.e. the presumption was made if there was no stronger evidence against it.

According to a transitional rule connected to the tightening up of the Work Injury Insurance Act, reports received by June 1993 would be judged according to the earlier rules, if the injury had appeared before 1 January 1993.

Intense campaigns by the trade unions, among others, contributed to a doubling of the number of reported occupational diseases in 1993 compared to 1992 followed by a 75 per cent drop in 1994. The frequency rate of occupational diseases for 2003 is considerably lower than that for 1992, in spite of an increase since 1998.

On 1 July 1993, the rules concerning compensation for occupational injuries were also changed. The work injury insurance is fully co-ordinated with the general health insurance, and there is no extra compensation for occupational injuries. The injured person receives the same health insurance benefit as others. During the first sick-leave weeks, the employer provides sick pay to all, according to the Sick Pay Act. However, the insurance still includes an annuity for persons whose work capacity has been permanently reduced as the result of an occupational injury. In principle, this annuity provides full

compensation for loss of earnings. The abolition of the higher work injury benefit during sick-leave, means that in most cases there is no longer an economic incentive to report occupational injuries. The obligation for employers to report all injuries remains, however.

On 1 July 2002 the Work Injury Insurance changed, with a weaker rule of evidence. The new rules concern only injuries appearing after 1 July 2002.

The work injury insurance, like the general social insurance does not regulate questions concerning compensation for incapacity and injury and other such inconveniences. In these respects, instead the injured employee is able to obtain compensation under special social security insurance agreements, which is an agreement between employers' associations and trade unions and which include most employees in Sweden.

## **Reporting and registration of occupational injuries**

According to the Work Injury Insurance Act, all occupational injuries should directly be reported by the Employer to the Social Insurance Office. The Employer should use a special notification formula, which is drawn up by The National Social Insurance Agency in cooperation with The Swedish Work Environment Authority, SWEA. The Social Insurance Office sends a copy of the notification further to SWEA.

In April 2002 the routines for the ISA-system changed from a manual procedure to scanning of the forms for reporting occupational injuries. It means that the formula should be sent straight from the employer to scanning and electronic storage. All information can not be processed electronically, e.g. the information about the events leading up to the accident and external agencies. Such information is encoded manually at the Swedish Work Environment Authority by specialized staff.

When starting the new system in 2002, the definition of year for work-related diseases has been changed from date of report to date of scanning/registration. Furthermore, a number of new classifications were introduced based on recommendations by the Statistical Office at the European Communities (Eurostat).

## The injury formula and classification

During the year 2001 a new notification form for the reporting of occupational accidents and work-related diseases was introduced. Of the occupational accidents and work-related diseases in 2005, about 95 per cent were reported on the new injury formula.

**The following information on occupational injuries is included in the injury formula:**

- Personal particulars and the injured individual
- Employer's particulars
- Type of injury
- If accident: how it happened
- If illness or other ill-health: what caused it
- Extent of the injuries
- Measures preventing repetition of injury
- Signatures

Occupational injuries are classified, according to type of injury, into three groups, namely occupational accidents (with and without sick-leave), accidents when travelling to or from work (commuting accidents) and work-related diseases. Occupational accidents without sick-leave and commuting accidents are not encoded manually, which means that the information in the register on such cases is limited to items that can be automatically retrieved in the scanning procedure.

The classification of economic activity used is the Swedish Standard Industrial Classification 2002 (SNI2002), which is based on the statistical classification of economic activities in the European Community, the revised version NACE Rev. 1.1. Data on economic activity at establishment level within different enterprises are obtained from the Sweden's Business Register (FDB), which is compiled by Statistics Sweden (SCB). From the same source the number of employees at the establishment is obtained.

The occupation of the injured person is classified according to SSYK, the Swedish version of ISCO88.

Through Employment Status the injured persons are categorised into employees (permanent or fixed-term hiring), self-employed persons, students and apprentices, conscripts and others insured under the State Personal Injury Protection Act (LSP) etc.

**The occupational accidents are categorised according to the new European methodology into:**

- The Working Environment: It is the type of working area or location where the victim was present or working just before the accident
- The Specific Physical Activity: The activity being performed by the victim just before the accident
- The Deviation: The most important event deviating from normality and leading to the accident
- The Material Agent of deviation: The principal Material Agent associated/linked with the deviant event. It describes the tool, object or instrument involved in the abnormal event
- The Contact - Mode of Injury: The contact that injured the victim, i.e. how the victim was hurt (physical or mental trauma) by the Material Agent that caused the injury
- Type of injury: It describes the physical consequences for the victim e.g. bone fracture, wounds etc.
- Part of body injured: It is in principle also in accordance with the ILO recommendation

**The work-related diseases are categorised into:**

- Suspected cause: They are roughly divided according to the cause of the illness e.g. ergonomic factors, chemical substances, noise, vibration, social and organisational factors etc.
- Exposure factors: Up to five exposure factors according to the European Classification of the exposures causing occupational diseases
- Disorders: This classification is a rough description built on the chapters in the International Classification of Disease the tenth edition (ICD10)

## Quality of the statistics

The statistics are a total survey in the sense that the register includes all incoming reports, but it describes an inflow of work injury reports, which means that in order for an injury to be included in the statistics, a report must have been filed to the Social Insurance Agency.

The quality of the recorded data depends on the register's degree of coverage, i.e. on how large a part of the "true" occurrence of work injuries it includes, and on the quality of the individual data. The degree of coverage hinges both on formal delimitations and on under-reporting of work injuries.

## Formal delimitations

The ISA registration of occupational injuries conforms for the most part to the reporting routines and work injury concepts of the Work Injury Insurance Act.

### **Briefly this means that:**

- The injury shall come within the work injury concept
- The injured person must belong to the population covered by the insurance

This means that not all work injuries are included in the statistical summaries. Examples of work-related injuries excluded are injuries in the course of work not constituting gainful employment, injuries to third parties and infectious diseases over and above certain types specified by the Communicable Diseases Act. On the other hand the work injury concept does include certain injuries where the connection with work can be called into question, e.g. injuries occurring in connection with play, sporting activity or such-like, but these make up only about 3 per cent of all occupational accident reports and mostly concern injuries sustained in the course of duty, e.g. by child care staff, policemen or fire-fighters.

## Dropout

Dropout refers to injuries which, formally speaking, ought to be included in the register but is not to be found there.

**This dropout can occur at two stages, viz:**

- Dropout through omission to file a report (under-reporting)
- Dropout during subsequent processing

A reporting system of this kind is sensitive to changes in legislation and health insurance systems and to campaigns of different kinds, as well as to knowledge concerning the system. Locally active union organisations, for example, can raise the reporting frequency significantly, which can give rise to artificial differences between both regions and branches of economic activity and different types of illness. One example of the way in which statistics can be affected is the reporting campaigns conducted during 1993 in connection with changes in the Work Injury Insurance Act, resulting in an extremely large number of reports of work-related diseases during May and June of that year.

In a special study, data from survey studies of work-related disorders 1995 – 2000 have been compared with reported work injuries. Topics investigated in that study included the extent to which persons reporting work-related disorders are also to be found in the ISA register.

When making comparisons between ISA and the studies of work-related disorders, one has to remember that these are quite different kinds of material. ISA shows the influx of new work injuries reported in a certain year. Every work injury reported is recorded just once, even if the disorders have been going on for several years. On the other hand, the same person may occur more than once in the ISA register, but then with reference to different injuries. In the survey of disorders, on the other hand, the subjects are asked whether they have suffered from work-related disorders during the past year. The injury need not have arisen during the past year. Some of the disorders reported in the disorder studies, then, may have commenced far earlier, with the result that the work injury report may also have been filed many years ago.

There is also a difference of degree between declared disorders and those leading to a work injury report. One reason for the great difference between the sources concerns the difference in methods of measurement, added to which, presumably, it is usually more severe disorders which lead to a work injury report being filed.

Although the two sources of information are so different in character, it is still interesting to compare the results. Since the degree of reporting in the studies of disorders cannot reasonably be affected, for example, by changes in health and work injury insurance, comparative studies can provide indications of the extent to which such changes have impacted on readiness to report work injuries to the Swedish Social Insurance Agency.

The ISA reporting rate was 55 per cent for occupational accidents. For disorders caused by other conditions, the reporting rate was 23 per cent. According to the study, disorders occasioning sicklisting have a considerably higher reporting rate than those not involving any sickness absence. By far the highest registration rate applies to disorders with prolonged sick listing.

The reporting rate varies from one branch of economic activity to another. For all types of disorder, the reporting rate is highest for construction and manufacturing and extraction industries, followed by health care and transport, warehousing and communications. At the bottom of the list we have financial activities, followed by public administration, defence and compulsory social security and by property services, rental activities and business services. The reporting rate is higher for male than female.

In the survey of disorders, the subject is also asked whether the disorder has been reported to the Social Insurance Agency as a work injury. The disorders which have been reported but are still not to be found in ISA can be regarded as administrative dropout. For occupational accidents the administrative dropout is estimated at 18 per cent and for disorders caused by other conditions at 25 per cent. The reliability of these data has opened the question, however, since 5 per cent of the respondents stating that they have not reported their disorders as work injuries are nevertheless to be found in ISA. Since 2002 the new routines will prevent most of the administrative dropout.

## **Quality of the data, reliability of encoding and updating**

Incoming reports vary a great deal in quality. Added to this, data quality also varies considerably within a single report. Another circumstance which can detract from the quality of data is the unnecessarily long time lag between the injury date and the date of the employer's report, due often to delay in the investigation of the injury. Measurements have shown the average time lag to be about 40 days per case (median) for the occupational accidents.

Detailed, correct encoding is rendered impossible by report forms not always being properly completed. Then again, certain errors are liable to occur during the encoding process. Certain types of error are discovered in the course of checks and are then corrected. Difficulties discovered are also addressed by means of improvements to encoding instructions, training or suchlike.

One way of obtaining information about the quality of the recorded data is by control-coding parts of the material. Control coding of this kind has been performed on a random sample of 400 occupational accidents included in ISA for 2002, 2004 and 2005. Comparisons were then made for the variables between the original code and the control code. Comparisons of this kind do not give the exact percentage error of encoding, because the code allotted during control coding may also be incorrect. The percentage deviation observed is normally much higher than the actual percentage error, due to aggregation of the deviations occurring in each encoding.

Employment status showed a fit of 99 per cent 2005. Cause (Deviation) of the accident is encoded according to the detailed description of the accident given in the report form. Comparison between basic code and control code can be done at several levels. In the level presented in official tables, comparison showed an 81 per cent fit 2005. Contact - Mode of injury showed a fit of 85 per cent of the 1 - digit -level. Control coding of 400 randomly selected cases of work-related disease for 2005 showed a fit of 98 per cent for Suspected cause, while Disorders had an 90 per cent fit.

Data concerning days of sickness absence are added to the register subsequently. In some cases the employers report the number of days directly in the notification. Mostly however the information of sickness absence is sent electronically to the Swedish Social Insurance Agency and then further to ISA. The year 2005, 40 per cent of the occupational accidents and 38 per cent of the work-related diseases lacked information about days' sickness absence.

Certain work injuries lead to prolonged sickness absence. This is above all the case with certain types of work-related disease, e.g. musculoskeletal diseases. The reason why a work-related disease can entail many days sickness absence is that the disorders may have commenced many years before a report was filed and that sickness absence can also often occur after a report has been made. The sickness absence recorded in ISA includes the whole of the sickness period, i.e. both before and after the reporting date.

One datum added automatically is branch of economic activity. This is mostly taken from Sweden's Businesses Register (FDB). Quality, then, depends primarily on the quality of the FDB code for the branch of economic activity. This datum refers to the principal activity of the workplace and the enterprise where the injured person works. Particulars concerning branch of economic activity are subject to certain errors in the case of businesses carrying on more than one kind of activity at a single workplace. In cases of this kind, the code for the branch of economic activity is in principle decided according to the activity occupying the largest number of employees.

## Statistical products

ISA is used as input data for a variety of products.

Official statistics, on occupational accidents and work-related diseases occurring in a certain year, comprising two different publications viz a final and a preliminary report. The final statistics contain detailed tables showing, for example, the number of persons gainfully employed and duration of sicklisting, as a basis for risk comparisons between branches of economic activity, while the preliminary annual compilation conveys a rough picture of the development of relative frequencies at general level. The preliminary statistics for a certain year are published about four and a half months after the end of that year, while the final statistics for the same year are published about 10 months later. The official publications include summaries translated into English.

Reports and fact sheets, which can contain a more detailed description of a certain type of occupational accident or work-related disease. These publications can also include an account of injuries in a certain part of working life, e.g. a certain branch of economic activity.

The Swedish Work Environment Authority undertakes special processing of the primary material on a bespoke basis. Individual researchers or other interested parties can also obtain depersonalised data on a suitable data media. Special processing is undertaken at cost price.

All publications, reports and fact sheets are available on the web site of the Swedish Work Environment Authority, [www.av.se](http://www.av.se), as well as in printed form.

### Reported occupational injuries in 2005.

In 2005 the number of occupational injuries was 117 000 and they break down as follows;

	Men	Women	Total
<b>Occupational accidents with absence from work</b>	20 087	13 133	33 220
- of which employees and self-employed persons	18 936	12 804	31 740
<b>Work-related diseases</b>	8 134	9 454	17 588
- of which employees and self-employed persons	7 747	9 360	17 107
<b>Occupational accidents not leading to absence from work</b>	22 738	29 350	52 088
<b>Accidents on travelling to or from work</b>	4 394	8 918	13 312
<b>Late reported accidents and old diseases<sup>1</sup></b>	260	182	442
<b>Not occupational injury/classification not possible</b>	176	127	303
<b>Total</b>	<b>55 789</b>	<b>61 164</b>	<b>116 953</b>

1) Accidents that have occurred more than about two years before the date of report and work-related diseases with a date of injury more than ten years before the date of report

Source: SWEA/ISA



# Reports in the Arbetsmiljöstatistik series

- 2003:1 Arbets-skador 2002. Preliminära uppgifter**  
Occupational accidents and work-related diseases  
(Summary in English)
- 2004:1 Arbets-skador 2003. Preliminära uppgifter**  
Occupational accidents and work-related diseases  
(Summary in English)
- 2004:2 Arbets-skador 2002**  
Occupational accidents and work-related diseases  
(Summary in English)
- 2005:1 Arbets-skador 2004. Preliminära uppgifter**  
Occupational accidents and work-related diseases  
(Summary in English)
- 2005:2 Arbets-skador 2004. Preliminära uppgifter**  
Redovisade efter län och kommun
- 2005:3 Arbets-skador 2003**  
Occupational accidents and work-related diseases  
(Summary in English)
- 2006:1 Arbets-skador 2004**  
Occupational accidents and work-related diseases  
(Summary in English)
- 2006:2 Statistik om belastningsergonomi**
- 2006:2E Musculoskeletal ergonomics statistics**
- 2006:3 Elevers skolmiljö**  
– en undersökning hösten 2005 av barn födda 1994
- 2006:3E Pupils' Environment in Schools**  
– A Survey, Autumn 2005, of Children Born in 1994
- 2006:4 Arbets-skador 2005. Preliminära uppgifter**  
Occupational accidents and work-related diseases  
(Summary in English)
- 2006:5 Arbets-skador 2005. Preliminära uppgifter**  
Redovisade efter län och kommun
- 2007:1 Arbetsorsakade besvär 2006**  
Redovisade efter län
- 2007:2 Arbets-skador 2005**  
Occupational accidents and work-related diseases  
(Summary in English)

---

## **The Swedish Work Environment Authority,**

Publication Services,

Box 1300, SE-171 25 Solna,

(phone +46 8 730 97 00

or fax +46 8 735 85 55),

E-mail: publikationsservice@av.se

**[www.av.se/inenglish](http://www.av.se/inenglish)**