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Report III

Statistics of occupational injuries

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1. Introduction

Background

1. The setting of standards for statistics of occupational injuries dates back to 1923, when the First International Conference of Labour Statisticians (ICLS) adopted a resolution on statistics of industrial accidents covering the classification of accidents and the calculation of frequency and severity rates. Subsequent studies of national practices and attempts made to ensure international comparability in the field of occupational injury statistics revealed that the resolution adopted by the First ICLS needed revision, particularly in respect to the methods used to calculate injury rates. The subject was accordingly included in the agenda of the Sixth ICLS (1947), which adopted a resolution superseding the resolution of the First ICLS and making detailed recommendations on the methods to be followed in calculating frequency and severity rates.

2. At the request of the Ninth ICLS, which noted in 1957 that the international recommendations in this field had been largely overtaken by events, the subject of industrial accidents was included in the agenda of the Tenth ICLS in 1962, which had before it a report based on the conclusions of a Committee of Experts convened by the ILO in 1959 and on information obtained from governments. The Tenth ICLS adopted a resolution concerning statistics of employment injuries, covering industrial accidents, commuting accidents and occupational diseases. With regard to the compilation of statistics, especially of occupational injuries, the resolution set new international standards and defined for statistical purposes the notions of fatality, permanent disablement and temporary disablement. It suggested four classifications of accidents according to type of accident, the physical agency, the nature of the injury and the bodily location of the injury (ILO, 1976, pages 107-109).

3. Some 20 years later, prompted by the lack of practical improvement in the comparability and availability of statistics on occupational injuries, the 13th ICLS (1982) considered the topic again on the basis of the conclusions of a Meeting of Experts held in 1980 (ILO, 1982). The resolution adopted by the 13th ICLS included new definitions of work accidents and occupational injuries and set out broad guidelines for coverage and classification. It also contained recommendations for the calculation of incidence and frequency rates (ILO, 1983, pages I/10-13).

4. Statistics of occupational injuries are included in the provisions of the Labour Statistics Convention (No. 160) and Recommendation (No. 170), 1985. They are included in the list of basic topics on which countries are called upon to progressively expand their collection, compilation and publication of statistics. Article 14(1) of the Convention establishes the coverage of statistics of occupational injuries, while Paragraph 12 of the Recommendation gives guidance regarding periodicity of compilation and classification.

5. The most frequent sources of these statistics (administrative records of accident compensation schemes and of labour inspection services) evidently reflect the requirements of national labour legislation. The 13th ICLS emphasized that, without changes to labour legislation and regulations, it would be difficult to make improvements in national statistics and enhance their comparability between countries (ILO, 1983a). However, the new guidelines were not sufficient to encourage these changes and other sources of data were not envisaged. The situation therefore remained static regarding the statistics, and even deteriorated in some areas.

6. Data on occupational injuries for some 113 countries, areas and territories were published in the 1997 edition of the *Yearbook of Labour Statistics* (ILO, 1997). A review of the national practices, for which information was collected by the Office in

1996 with a view to the publication of the *Sources and methods: Labour Statistics* volume on occupational injuries (ILO, 1998c), reveals great differences between countries in both the coverage of the statistics and the concepts and classifications used. Where advances have been made, they have tended to take different directions so that the statistics that are compiled are not easily comparable between countries, with the exception of the Nordic countries.

7. As a result of the diversity of situations regarding the availability and comparability of information on occupational injuries and diseases in member States, the Governing Body convened a Meeting of Experts in October 1994 to draw up a code of practice on the recording and notification of occupational accidents and diseases. The Meeting adopted a code of practice based on a draft prepared by the Office, noting that "its provisions should be considered as the basic requirements for the collection, recording and notification of reliable data on occupational accidents and diseases, and related statistics" (ILO, 1986, page VI). The code provides valuable guidance to the competent authorities on the development of systems for the recording and notification of occupational accidents and diseases, and for action by governments, social security institutions and other organizations aimed at the overall prevention of occupational accidents and diseases. It gives more prominence to the effective use of recorded and notified data for preventive action than to the collection and compilation of statistics.

8. In recent decades, a number of countries have considerably developed their systems for the notification of occupational injuries and for the collection and compilation of statistics in this field (see, for example, HSE, 1996; The Danish Labour Inspection Service, 1991; and United States Department of Labor, 1997). These developments concern not just the types of data collected and the coverage of the systems, but also the classifications used in order to improve the data available for prevention purposes. In addition, in January 1990, the European Union launched a study on European Statistics on Accidents at Work (ESAW), aimed at formulating proposals for the harmonization of statistics of accidents at work throughout the European Union. The project is managed jointly by the Statistical Office of the European Communities (EUROSTAT) and the Directorate-General for Employment, Industrial Relations and Social Affairs (DGV). Considerable progress has been achieved in this project in the development of common variables relating to occupational injuries and accidents, together with their respective classification systems, which are crucial to the goal of harmonization (EUROSTAT, 1992 and 1997).

9. The inadequacies of the current international guidelines on statistics of occupational injuries can be summarized under two main categories: (a) the methods used for measuring occupational injuries, and (b) the classifications of occupational injuries. In recent years, many national authorities have turned to the ILO for guidance, particularly regarding classifications of occupational injuries. As noted above, the ILO code of practice on the recording and notification of occupational accidents and diseases does not provide a great deal of guidance on the statistical measurement of occupational injuries. In addition, while still relevant to a certain extent, the classifications annexed to the resolution concerning statistics of employment injuries, adopted by the Tenth ICLS in 1962, require updating to meet modern and future needs, as well as expansion, to cover growing demands for more analytical information about the causes of accidents and injuries.

10. In view of these developments, the Governing Body of the International Labour Office convened a Meeting of Experts on Labour Statistics in Geneva from 30 March to 3 April 1998. The Meeting was attended by 18 experts, six from each group nominated by the Governing Body. Nine observers and four representatives of intergovernmental organizations also attended the Meeting.

11. In preparation for the Meeting, the Office drew up a report (ILO, 1998a)

dealing with:
(a) methods of measurement of occupational injuries; and
(b) classifications of occupational injuries.
The Meeting of Experts supported most of the proposals contained in the report, but expressed some reservations concerning some of the proposed classification schemes. The Meeting's conclusions (ILO, 1998b) have been taken into account in the preparation of the present report, including the draft resolution on statistics of occupational injuries presented in the appendix to this report.

Scope of the report

12. The aims of this report are to discuss the major issues involved in the measurement and classification of occupational injuries and to make proposals for new international guidelines in this field. The Meeting of Experts recognized the need for revised standards on occupational injuries, but also emphasized the importance of statistics on all areas of occupational safety and health, including occupational diseases, dangerous occurrences and the effects of stress, repetitive movements and other undesirable influences on the health of workers. These would not be covered by the guidelines under discussion, but the Meeting recommended that, once its developmental work for statistics on occupational injuries had been completed, the ILO should develop standards for statistics of occupational diseases, including upper limb disorders, repetitive traumas and similar conditions.

13. Where relevant for statistical purposes, the provisions of the ILO code of practice on the recording and notification of occupational accidents and diseases have been taken as the starting-point for the draft recommendations contained in this report, as well as the terms of the ILO Labour Statistics Convention (No. 160) and Recommendation (No. 170), 1985, and the resolution adopted by the 13th ICLS. In preparing the report, attention has also been paid to existing national practices in this field and the developmental work that is currently being undertaken by the Statistical Office of the European Communities and the European Commission within the framework of the ESAW project (EUROSTAT, 1992).

14. Where relevant, references to proposed points for inclusion in a draft resolution on statistics of occupational injuries are provided in the text below. The proposed draft resolution is presented in the appendix to this report.

A framework for occupational injuries

15. Users of statistics of occupational injuries want to know who has been injured, how (and if possible why) the accident happened, how the person was injured and what the consequences of the injury were. In drawing up the proposals in this report, the Office has viewed occupational injuries within a framework which situates the victim within his or her working environment, and then indicates the various stages and relevant elements which lead up to the accident and injury. To facilitate the Conference's discussions, an outline of this framework is given below.

16. The framework starts with the individual worker, the environment in which he or she is working and the type of work carried out. This provides the background to the accident. The worker has a set of personal characteristics, including sex, age, education, training and experience. The worker is engaged in an occupation, with a particular status in employment, in an establishment of a certain type, size and economic activity and a certain location.

17. Before the accident happens, the person is carrying out a work process (type of work) and, when the accident occurs, he or she is performing a specific activity at a particular location, often using a tool or working with a material of some kind. Up to this point, the information describes any worker, whether or not he or she is subsequently involved in an accident.

(Insert figure 1.1 here)

18. At this point, however, something goes wrong and an abnormal, unexpected and undesired event (deviation from the normal) or perhaps a chain of incidents occurs which *causes* an accident. In many cases, this involves an item or object. As a result, the person is injured in a certain way by an item or object, incurring a type of injury to a part of his or her body, either killing him or her, or causing him or her to stop working for first aid at the workplace, or for medical treatment, for example at a hospital. Subsequently, if he or she cannot return to work immediately, there is a period of absence from work for recovery, convalescence and, if necessary, rehabilitation. If the injury is such that the worker sustains a permanent incapacity (such as loss of the use of a limb or eyesight), he or she may either not be able to work again, or may not be able to return to the same work in which he or she was employed at the time of the accident. The accident could also lead to the development of a disease at a later date, particularly in the case of exposure to radiation or a virus.

19. The following example illustrates this framework (see figure 1.2 below). A young man, 22 years of age, is employed as a trainee gardener on a short-term contract by a hospital which has extensive grounds. The hospital employs an average of 500 full-time workers, and is located in the capital city. On the day of the accident, the young man and his fellow workers were gardening: raking leaves from the lawns, digging flower beds to prepare them for planting, pruning bushes, and removing the weeds, dead leaves and prunings to the compost heap. Just before the accident, the young man was digging a flower bed using a garden fork. At one point, he stepped back from the flower bed in order to look at his work. Unfortunately, he had not noticed that a fellow worker had left a rake on the grass behind him, with the prongs facing upwards. He stepped on the rake and two of the prongs pierced his foot. He received treatment in the emergency unit of the hospital and, as a result of his injury, was not able to work for two weeks.

(Insert figure 1.2 here)

2. Objectives and uses of statistics of occupational injuries

20. The first of the objectives included in paragraph 1.1 of the code of practice on recording and notification of occupational accidents and diseases (ILO, 1996), and probably the most important, is "to increase the scope and effectiveness of the investigation of causes of occupational accidents and diseases, and the identification and implementation of preventive measures".

21. Among the replies to the questionnaire on the methods used for collecting and compiling statistics of occupational injuries (ILO, 1998c), the most frequently stated objective related to accident prevention and monitoring of accident prevention programmes. Some countries, and particularly those in which the data source is an occupational injury compensation scheme, gave as reasons the calculation of the cost of occupational injuries, the adjustment of insurance premiums and the estimation of compensation payments.

22. The Meeting of Experts (ILO, 1998b) considered that the principal objective of a programme of statistics on occupational injuries was to provide the comprehensive information required for the purposes of accident prevention. The data should identify occupations and economic activities where occupational injuries occur, along with their extent and severity, as well as the ways in which accidents and injuries occur. The role of the statistics is to indicate important areas to which attention should be paid. These areas would be the subject of more detailed investigation, in which more information could be gathered regarding the chain of events leading to an accident and injury.

23. The Meeting of Experts supported the concept of a programme of statistics on occupational injuries that would cover all workers in all occupations and economic activities, and use data from different sources to supplement the traditional areas from which the information was generally drawn, i.e. the administrative records of compensation schemes and labour inspectorates. The international standards should recommend a minimum programme representing good practice. Countries could develop on this to suit their own national needs and circumstances. It was emphasized that the international standards were not intended to limit or undermine any existing national systems, nor inhibit their improvement, and should not be used in such a way.

24. The Meeting of Experts also felt that a clear distinction should be made between the objectives of the statistics and the uses to which they could be put. Support was expressed for a number of the proposed uses, of which the main ones are enumerated below. Some concern was expressed about using the statistics for financial purposes (such as estimating the cost of occupational injuries or assessing social security contributions), but there was also support for these uses, since they could perform an effective role in accident prevention. It was proposed that the cost of occupational injuries should best be expressed in terms either of days lost or of days of absence from work and that other variables should be included, such as production losses, in order to quantify the full cost.

Uses

25. The distribution of cases of injury, the types of injury incurred by the different occupations in the various economic activities and their frequency rates can be used to determine where most occupational injuries occur and the extent of their severity. This can form the basis for planning preventive measures. Areas of highest risk can be targeted more effectively for safety campaigns, inspection visits and the development of regulations and procedures. With data also broken down according to sex and age, high-risk groups in the different segments of the population (women, young people, etc.) can be identified and targeted.

26. The information can be used to identify priority areas for action and to set priorities for action. These priority areas can be determined in terms of the occupations and economic activities with the risk of the most serious types of occupational injuries, those where there is a high probability that part of the exposed group will be injured, and those where large groups of people are exposed to risks, or a combination of these.

27. For example, the Occupational Safety and Health Administration (OSHA) of the United States recently announced a strategic plan comprising nine performance objectives targeting, amongst other areas, economic activities with high rates of injuries (nursing homes, construction, logging, shipyards and food processing) (Bureau of National Affairs, 1997). The strategic plan also includes the goal of increasing employer and worker awareness of safety and health.

28. Changes in the patterns of statistics of occupational injuries can show where both improvements and deteriorations in occupational safety are occurring, and can warn of emerging risk areas. The data can also help to measure the effectiveness, or otherwise, of measures taken to improve occupational safety and health. This in turn helps to identify the most useful preventive action, thereby enabling a concentration of effort in the most effective ways.

29. While the major user of statistics of occupational injuries is most likely to be the national authority responsible for occupational safety and health, both employers and workers can benefit greatly from the data. Consciousness of the occupational safety and the risks inherent in certain types of work and economic activities can be enhanced if the relevant information is available (ILO, 1983b). This can lead to more awareness of the need for safety precautions, and to their application. A reduction in the number and severity of occupational injuries also makes good business sense. For example, the United Kingdom Health and Safety Executive estimated in 1994 that employers were losing between £4 and 9 billion each year through workplace accidents and work-related ill health (HSE, 1994). The overall cost of work accidents and ill health to the nation was estimated at between £11 and 16 billion every year (see also, on this subject, ILO 1986).

30. Schemes for insurance against occupational injuries can also play an important role in accident prevention, even if this is not their primary concern. Statistics of occupational injuries can be of use in this field as a basis for policies aimed at enhancing financial incentives for employers, employers' associations, workers and trade unions to introduce and apply accident prevention measures.

31. To meet the needs of accident prevention, as described above and supported by the Meeting of Experts, it would be desirable for each country to have a programme of statistics on occupational injuries that is as comprehensive as possible. This should form one of the major components of a wider programme covering statistics on occupational safety and health. (***Corresponding points are proposed for inclusion in the draft resolution as paragraphs 1, 2 and 3.***)

32. The Labour Statistics Convention, 1985 (No. 160), includes the following provision:

Article 3

In designing or revising the concepts, definitions and methodology used in the collection, compilation and publication of the statistics required under this Convention, the representative organisations of employers and workers, where they exist, shall be consulted with a view to taking into account their needs and to ensuring their cooperation.

33. This Article recognizes the need to involve organizations of employers and workers in all aspects relating to labour statistics, so as to take account of their data needs and to encourage their cooperation in providing information. (***In view of the importance of consultation with the users and suppliers of labour statistics, a point to this effect is proposed for inclusion in the draft resolution as paragraph 4.***)

3. Terms and definitions

34. The 13th ICLS provided the following terms and definitions in its resolution concerning statistics of occupational injuries (ILO, 1983a, page I/10):

1. (1) Employment injuries as defined in Convention No. 121 cover all injuries resulting from accidents arising out of or in the course of employment (industrial accidents and commuting accidents) and all occupational diseases.

(2) Work accidents are accidents occurring at or in the course of work which may result in death, personal injury or disease.

(3) Commuting accidents are accidents occurring on the way to and from work which may result in death or personal injury.

(4) Occupational injuries include deaths, personal injuries and diseases resulting from work accidents.

35. The ILO code of practice (ILO, 1996, paragraph 1.3) includes the following definitions:

Occupational accident: An occurrence arising out of or in the course of work which results in:

(a) fatal occupational injury;

(b) non-fatal occupational injury.

Occupational injury: Death, any personal injury or disease resulting from an occupational accident.

Occupational disease: A disease contracted as a result of an exposure to risk factors arising from work activity.

Fatal occupational injury: Occupational injury leading to death.

Commuting accident: An accident occurring on the direct way between the place of work and

(i) the worker's principal or secondary residence;

(ii) the place where the worker usually takes his/her meals; or

(iii) the place where the worker usually receives his/her remuneration;

which results in death or personal injury involving loss of working time. Traffic accidents in which workers are involved during working hours and which occur in the course of paid employment are considered as occupational accidents.

Incapacity for work: Inability to perform normal duties of work.

Loss of working time: Lost days counted from and including the day following the day of the accident, measured in calendar days, weekdays, work shifts or working days (...).

36. In September 1997, the European Commission/ESAW project proposed the following definition and explanation of occupational accident (EUROSTAT, 1998):

"A discrete occurrence in the course of work which leads to physical or mental harm." This includes cases of acute poisoning and wilful acts of other persons, but excludes deliberate self-inflicted injuries and accidents on the way to and from work (commuting accidents). The phrase "in the course of work" means "whilst engaged in an occupational activity or during the time spent at work".

Occupational accident

37. National practices vary considerably regarding the terms and definitions used for occupational accidents. Many include explicit reference to a sudden or unexpected event, as well as violent acts. These latter are of growing importance as causes of injuries in the workplace, as witnessed by United States data on fatal occupational injuries (United States Department of Labor, 1997). In 1995, job-related homicides in the United States accounted for one in every six fatal work injuries and formed the second leading cause of job-related deaths. Homicide was the leading cause of job-related fatality for women, accounting for nearly half of reported work injuries for women.

38. For statistical purposes, a simple, clear definition of occupational accidents is needed which reflects more explicitly current national experiences and practices, and which can be used for data collection from different types of sources, including household surveys. The definition adopted in the ILO code of practice is very general and does not provide adequate guidance as to the meaning of an occupational accident.

It is therefore proposed to amend the definition of an occupational accident included in the code of practice to take this into account. The Meeting of Experts was concerned that there should be no contradiction between definitions of occupational accidents appearing in different ILO guidelines, such as the code of practice and ICLS resolutions. In this connection, it should be noted that the proposed amendment would not lead to any inconsistency with the code of practice definition, but would provide supplementary precision for statistical purposes. (***The proposed definition of occupational accident is contained in paragraph 5(a) of the draft resolution.***)

Commuting accidents

39. Where commuting accidents are covered in the statistics of occupational injuries, these are often defined in a way that is consistent with the definition included in the ILO code of practice. The Meeting of Experts supported this definition, but preferring to use the term "ordinary" or "habitual", rather than "direct", to qualify the route between the place of work and the locations listed. It also recommended that the list of locations should be expanded to include places of training. Because of the confusion that sometimes arises between commuting accidents and other accidents during travel while the person is carrying out work on his or her employer's behalf or for his or her own work, a distinction needs to be made between these two categories. (***The proposed definition in paragraph 5(b) of the draft resolution, takes these concerns into account.***)

Occupational injury

40. The definition of occupational injury contained in the code of practice corresponds to the practice in the majority of countries, and was approved by the Meeting of Experts. (***It is proposed to include this definition as paragraph 5(c) of the draft resolution, without change.***)

Case of occupational injury

41. The case of one person injured in one occupational accident is referred to variously in national statistics, among other terms, as an "occupational accident", "occupational injury", or "person injured". A person may however be injured in more than one occupational accident during the reference period. In order to provide a more precise terminology which better reflects reality, it is proposed that the unit observation for occupational injuries should be the "case of occupational injury", defined as one person injured in one occupational accident. (***A point to this effect is included as paragraph 5(d) of the draft resolution.***)

Incapacity for work

42. The code of practice defines incapacity for work as "inability to perform normal duties of work". This is similar to the definition applied in a number of countries, although in some cases a qualifying phrase is added relating to the normal duties of work of the job or post occupied by the person at the time of the accident. This provides more guidance for identifying normal work duties, which could otherwise extend over a range of jobs. (***It is therefore proposed to amend the code of practice definition to include this aspect, as set out in paragraph 5(e) of the draft resolution.***)

43. The issue of disability was also discussed by the Meeting of Experts, although it was not able to reach a conclusion regarding a definition. Countries have many different ways of determining disability, usually in terms of a percentage of physical incapacity or total or partial disability, which are usually based on the provisions

of legislation or rules regarding compensation. While agreeing that disability was an important concept, the Meeting considered it appropriate to leave its definition to each country, since it was too subjective and difficult to measure at the international level.

4. Coverage

Occupational injuries

44. The code of practice states that "notification to the competent authorities covers all fatal occupational accidents, occupational accidents causing loss of working time and all occupational diseases included in a national list or covered by the prescribed definition of such diseases" (ILO, 1996, paragraph 1.2.3). Consequently, statistics drawn from the notification system would ideally cover all fatal occupational injuries and occupational injuries incurring loss of working time.

45. The ESAW project recommends the coverage of fatal accidents leading to the death of a victim within one year of the accident, and all cases of accidents at work leading to an absence from work of more than three calendar days. Commuting accidents would not be included, but cases of road traffic accidents occurring in the course of work would.

46. Since the principal objective of compiling statistics of occupational injuries is to provide information for accident prevention purposes, it would be useful to cover all occupational injuries which are serious enough to cause absence from work, i.e. which prevent workers from performing their jobs for at least one day. Almost half of the countries for which some methodological information is available use a limit of at least one day's absence from work in relation to non-fatal injuries, or do not apply any limit. Others restrict their data to injuries involving a loss of a minimum number of days, ranging from two to eight, with three or four days as the most frequent. These limits are usually set in relation to national rules for the compensation of absence from work due to injury or illness, which can and do change over time. The Meeting of Experts recommended a limit of one day, excluding the day of the accident, particularly since information about injuries could be drawn from a number of sources to which lower limits fixed for compensation purposes might not apply. (***The proposal in paragraph 6 of the draft resolution therefore recommends the coverage of all fatal occupational injuries and non-fatal injuries resulting in an absence from work of at least one day, excluding the day of the accident***.)

47. The Meeting of Experts noted that in several countries the number of cases of occupational injury involving absence from work is falling, while the number involving restricted working days, or days during which workers carry out lighter duties than normal, is increasing. If the statistics only covered injuries with absence from work, the picture would not be complete. ***(No recommendation regarding injuries involving days of restricted work activity has been included in the draft resolution, but the Conference may wish to consider this point.***)

48. Commuting accidents are not included in the definition of occupational accidents proposed in the draft resolution. However, they are closely associated with the work environment and are often considered as occupational injuries for insurance purposes. Moreover, in certain countries employers traditionally provide transport for employees to and from work, and this transportation is often the subject of negotiation between workers and their employers. A number of countries compile data on cases of injury due to commuting accidents along with data on occupational injuries. About half of the countries for which occupational injury series are published in the ILO *Yearbook of Labour Statistics* state that commuting accidents are included. However, the 13th ICLS and the code of practice recommended that, where data on commuting accidents are collected along with information on occupational injuries, they should be compiled and published separately. This was supported by the Meeting of Experts. (***This approach is therefore followed in paragraph 6 of the draft resolution.***)

49. The Meeting of Experts supported the view that travel, transport or road traffic

accidents which occur during the course of work, that is while a person is engaged in an economic activity, at work or carrying on the business of an employer, should be considered as occupational accidents. (***This is reflected in the definition included in paragraph 5(b) of the draft resolution.***)

Persons, economic activities and geographic areas

50. The 13th ICLS recommended that "where possible, occupational injuries to self-employed persons and family workers (paid or unpaid) should be included in the statistics, but they should be distinguished so that comparisons can be made with countries where they are excluded"(ILO, 1983a, page I/11). The code of practice states that its provisions "apply to ... all workers regardless of their status in employment"(ILO, 1996, paragraph 1.2.1). Convention No. 160 provides in Article 14(1) that statistics of occupational injuries "shall be compiled in such a way as to be representative of the country as a whole", which also implies coverage of all types of workers.

51. The statistics currently compiled by more than half of the countries appearing in the chapter on occupational injuries in the 1997 *Yearbook of Labour Statistics* are limited to employees, and sometimes only to certain categories of employees. Where the source of data is a compensation scheme, self-employed workers may be covered on a voluntary basis, but this is not common. Even where they are included in the statistics, coverage is far from exhaustive. The present national coverage in terms of the working population varies considerably and for certain countries relates to only 20 per cent of employment.

52. The changes in types of employment that have taken place throughout the world over the past decade or longer are well documented (see, for example, ILO, 1997a). Paid employment is evolving away from the traditional, regular type of employment. In many countries, self-employment activities are more prevalent, although they generally fall outside the scope of national statistics on occupational injuries. Therefore, in order to provide data that are appropriate for accident prevention purposes, and even cover workers in precarious employment situations, the programme for statistics on occupational injuries should cover all workers, whatever their status in employment. This approach was supported by the Meeting of Experts. (***It is reflected in paragraph 7 of the draft resolution.***)

53. Little is known about the injuries that occur among working children, that is among those who are below the normal working age and who are often not covered by the relevant labour legislation (see ILO, 1997b). In all likelihood, accidents in which working children are injured are not declared or covered by accident insurance. These traditional sources of data are not therefore suitable for obtaining information about such cases of injury. However, from recent surveys carried out by the ILO as part of the International Programme for the Elimination of Child Labour (IPEC), it is estimated that a very high portion of child workers are physically injured or fall ill while working (ILO, 1997c). Consequently, information is needed "to reduce injuries and illnesses resulting from childhood exposures to hazardous work environments, to promote positive, encouraging, successful, and health introductions to working life", and "to foster knowledge and skills in safety and health that will remain with youths throughout their working lives and enable them to be active participants in shaping their working environments" (NIOSH, 1997, pages 1-2). The Meeting of Experts recommended that child labour and other special population groups, such as informal sector workers and homeworkers, could be the subject of special studies because it would be difficult to obtain reliable data for them through traditional sources. (***A point to this effect is included in paragraph 7 of the draft resolution.***)

54. The code of practice and the labour statistics Convention provide for all economic activities to be covered, where possible. Most countries do in fact cover all economic activities, although some, such as agriculture, defence and police forces, are

excluded in 15 of the 113 countries for which statistics on occupational injuries are published in the 1997 *Yearbook of Labour Statistics*. Eight other countries limit their coverage to the specific activities provided for in the legislation relating to the notification of occupational injuries. Sixteen do not include public sector activities, usually because they are insured for occupational accidents through schemes other than those covering the private sector and the principal office responsible for the statistics may not have access to the information for all sectors. Although for practical reasons it might be preferable to exclude particular economic activities from the scope of the statistics, the programme should cover all activities so that it can fulfil properly its accident prevention objectives. (***This is reflected in paragraph 8 of the draft resolution.***)

55. The issue of geographical coverage requires clear specification. Most countries cover the whole country, as required by the labour statistics Convention. (***A point to this effect is included in paragraph 8 of the draft resolution.***).

56. However, there is sometimes confusion regarding persons who are injured in occupational accidents outside the country in which they are normally resident. These are usually workers travelling on business, those working temporarily abroad or on ships. For insurance purposes, they may be covered by insurance systems in their own county and therefore appear in the statistics of their country of residence. For notification purposes, however, they may be covered by the country in which the accident occurred and therefore appear in the statistics of a country in which they are not resident. With increasing business travel, labour mobility and employment on ships and off-shore platforms, the statistical guidelines need to contain clear specification as to how to deal with injuries occurring outside the country of normal residence. The number of such cases is not known (it may in fact be very small) and national practices vary. The Meeting of Experts considered that such cases should be covered on a *de jure* basis, that is that they should be included in the statistics of the country in which the injured persons are normally resident. However, for accident prevention purposes, it would be useful to include in national statistics all cases occurring within a country and in other areas covered by its jurisdiction, such as on board ships registered in the country or off-shore platforms within its territorial waters. (***A point to this effect is included in paragraph 8 of the draft resolution.***)

5. Types of data

57. Following the strategy adopted in the ESAW project, the code of practice recommends a gradual two-stage approach to the types of data that should be collected in relation to occupational injuries.

58. The first stage concerns the basic information which all countries should aim to collect, as a minimum, to identify the occupations, economic activities and personal characteristics of persons injured in occupational accidents. This information is needed to meet the basic objectives of determining the priority areas on which prevention programmes should focus. It includes:

(a) information about the employer and the enterprise or establishment: location, economic activity and size of the establishment or enterprise;

(b) information about the person injured: sex, age, occupation and status in employment;

(c) information about the injury: whether fatal or non-fatal; if non-fatal, amount of work time lost; nature (type) of injury, bodily location of the injury (part of body injured);

(d) information about the accident and its sequence: location, date and time, action leading to the injury (type of accident), agency related to the injury (ILO, 1996, paragraph 6.3.2.1).

59. The second stage provides for the collection of more detailed information, in particular about the accident and its consequences. More information is needed about how the accident happened and how the injury was incurred for accident prevention purposes. For this, the code of practice recommends the collection of the following additional information (the subparagraph numbering follows on from paragraph 58):

(e) information about the person injured: length of service;

(f) information about the injury: incapacity for work in calendar days;

(g) information about the accident and its sequence: shift, start time of work of the injured person and hours worked in the activity in which the accident occurred; work environment; work process; activity of the injured person at the time of the accident; item associated with the activity of the injured person (ILO, 1996, paragraph 6.3.3.1).

60. The Meeting of Experts supported the proposals prepared by the Office on the basis of the provisions of the code of practice. The minimum data set would constitute a first stage, which many countries have already achieved. The extended data set would provide more detailed types of information about the sequence of the accident and its consequences. It recommended that, for purposes of clarity, each of the variables to be included in the data sets should be explained in the draft resolution.

61. The Meeting of Experts also suggested the addition of certain types of information would be useful for purposes of accident prevention. For the minimum data set, these included: whether the person worked full time or part time; was a permanent or casual worker; had been examined by a physician, nurse or health worker; his or her duty status at the time of the accident (on duty, on a rest break, road traffic accident, etc.) and the number of hours worked from the beginning of the shift up to the time of the accident. It was also proposed that length of service, the activity of the worker at the time of the accident and the item associated with that activity should be moved from the extended to the minimum data set. Additional variables put forward for inclusion in the extended data set were: race or ethnic group; whether the injured person had received training in the job; and the highest level of education attained. The importance of information about the size of the establishment was also stressed by the Meeting, since the size often determines whether there is an accident prevention committee or safety and health department in the establishment. There is also a growing tendency for larger businesses to contract out certain services, often those requiring low levels of skill and more dangerous processes, to smaller establishments, which can be detrimental to the

safety and health of workers in those smaller establishments.

62. Much of the data included in the minimum data set of the code of practice are already collected by countries. Bearing in mind the fact that this data set would represent the minimum that all countries should aim at and that the data should be simple to obtain (from administrative records, household members, etc.), it is proposed to include in the draft resolution, for the minimum data set, those variables set out in the code of practice. The inclusion of additional variables would increase the burden on respondents and could increase the amount of time required to collect and compile the data. Certain types of information, such as whether the person worked full time or part time, or the length of service with the employer, might not be recorded by the employer or known by the respondent. With regard to length of service, it is useful to note that this variable has now been dropped from the ESAW project because of the poor quality of the information provided by countries. It is therefore proposed that the minimum data set from the code of practice be retained for the draft resolution, with amendments reflecting the need for explanation of the variables, and the removal of length of service. (***This is reflected in paragraph 9 of the draft resolution.***)

63. Similarly, it is proposed that the extended data set from the code of practice be included in the draft resolution, including explanations of the different variables. (***This is reflected in paragraph 10 of the draft resolution.***)

64. As noted above, the minimum data set and extended data set are included in the draft resolution as basic standards towards which countries should aim. These may be supplemented by additional types of data in each country, taking into account its own specific conditions, circumstances and concerns. It is worth bearing in mind, however, that the objective is to keep the set of variables as simple as possible so as to facilitate data collection and the production of timely information.

65. With regard to commuting accidents, if they are covered in the statistics, the code of practice recommends that "the relevant necessary information to be notified should be specified" (ILO, 1996, paragraph 6.3.3.2). However, it provides no further guidance. In the case of a commuting accident, similar types of information would be needed regarding the employer, the injured person and the injury. Regarding the accident and its sequence, however, in addition to the basic data on the geographical location of the accident and the date and time of the accident, it would be useful to collect information on such factors as the type of transport, the transport role of the injured person and the involvement of any counterpart. Certain of the suggested types of information included below follow the Nordic Medico Statistical Committee's (NOMESCO) Classification of External Causes of Injuries (NOMESCO, 1997, pages 51-56):

(a) place of occurrence: pavement, cycleway, motorway, etc.;
(b) the injured person's mode of transport: walking, on or in a vehicle, such as a bicycle, car, bus, etc.;
(c) the injured person's transport role: pedestrian, driver, passenger, etc.;
(d) the mode of transport of the counterpart (if any): if another party was involved, whether the person was walking, on or in a vehicle, etc.;

(***Paragraph 11 of the draft resolution calls for the collection of these types of data in connection with commuting accidents.***)

6. Measurement

Occupational injury

66. The 13th ICLS recommended that "the unit of enumeration should be the person killed or injured as a result of a work accident. Countries should also consider the use of the event as another way of presenting the data"(ILO, 1983a, page I/11). This unit of enumeration is used in all countries, with slightly differing terminology and definitions.

67. It is proposed that the draft resolution retain the same unit of enumeration, but with some modification to add precision to the guidelines. The unit of observation should therefore be "the case of occupational injury", that is one person who is injured in one occupational accident. In this way, if a person is injured in more than one occupational accident during the reference period, each case of injury would be counted separately. Also, there may be more than one case of injury resulting from a single occupational accident if more than one person is injured. Using the "case of occupational injury" as the unit of enumeration would provide an accurate measure of the number of times individuals are injured, and facilitate the recording of the information regarding each injury. It would also permit the enumeration of different cases of occupational injury due to the same accident. The Meeting of Experts approved these proposals. It also recommended that a recurrence of an injury due to one accident should be treated in the statistics as a continuation of the same injury, rather than a new injury. (***Paragraph 12 of the draft resolution proposes using the "case of occupational injury" as the unit of observation.***)

Fatal occupational injuries

68. It is proposed that, for statistical purposes, an upper time-limit should be applied for the measurement of fatal occupational injuries. In this way, a fatal injury would be counted as such if the delay between the time of the accident and the victim's death does not exceed a specified period. Many countries follow this procedure. The most common time-limits established are six months or one year from the day of the accident. Although most fatalities occur immediately after or within a few weeks of the accident, some do not. A standard is therefore needed to provide guidance for the statistics. Moreover, unless a time-limit is applied, there may be delays in the dissemination of data and past data may be continually revised. A one-year time-limit, which is already in use in a number of countries, seems appropriate. (***This point is reflected in paragraph 13 of the draft resolution.***)

Time lost

69. The code of practice defines loss of working time as "lost days counted from and including the day following the day of the accident, measured in calendar days, weekdays, work shifts or working days. Calendar days are preferable as a measure of accident severity, while working days are preferable as a measure of economic impact. Where working days or weekdays are used, an estimate in terms of calendar days should be provided wherever possible" (ILO, 1996, paragraph 1.3.1). This follows closely the guidance contained in paragraph 7(3) of the resolution adopted by the 13th ICLS. The ESAW project provides for the measurement of time lost as the number of calendar days lost due to an accident at work.

70. National practices vary considerably in this respect. Where the source of data is an insurance scheme, the unit of measure is often the workday, since compensation is often estimated in terms of work time lost or absence from work. The unit also varies for other sources. Most countries do not include the day of the accident in their assessment of time lost, nor do they include short absences of less than a day for medical treatment.

71. The most suitable unit for measuring the severity of the injury would be the calendar day, as this gives an indication of the duration of the effects of the injury. Workdays are useful for measuring the economic impact of the absence from work caused by the injury for both the worker and the employer. It is suggested that the calendar day should be the preferred unit of measurement in the statistical guidelines but that, if only workdays are recorded, an attempt should be made to estimate the total number of calendar days lost as well. The Meeting of Experts supported these proposals, although it was recognized that they could be difficult to apply. Nonetheless, about 70 per cent of the countries for which series on occupational injuries are published in the *Yearbook of Labour Statistics* are able to provide data on days lost. This information is particularly important for calculating severity rates. It is further suggested that, as in the case of the recurrence of an injury due to the same case of occupational injury, the amount of time lost should be measured for each period of absence due to the injury. (***Paragraph 14 of the draft resolution reflects these points.***)

72. Clearly, time lost should be measured separately for each case of occupational injury where there is a temporary incapacity to work. Certain countries also estimate time lost for cases of permanent incapacity and fatalities. This is the practice particularly where the data source is an insurance scheme, which provides standard schedules for calculating the time lost for compensation purposes. While this information has its uses for compensation purposes, it is not of particular value for accident prevention, as the severity of the injury is already determined by the permanent incapacity status or death of the victim. However, the Meeting of Experts considered that time lost should also be measured for these cases. Where countries follow this practice, the methods of estimation vary considerably. Some use standard schedules of, for example, 6,000 days for all cases of permanent incapacity and fatality, while others apply schedules which take into account the age of the worker at the time of the accident. Including these estimates together with the time lost by workers with temporary incapacity for work could result in a misleading picture for a particular reference period. Because of the lack of consistency in national practices, it is difficult at this stage to identify a single method that could be used to estimate days lost as a result of permanent incapacity for work or fatal occupational injuries. It is therefore proposed that the measurement of time lost should, for statistical purposes, cover only cases of temporary incapacity for work, as a minimum. Nevertheless, it may also be useful to estimate the time lost as a result of permanent incapacity for work or fatalities. In this case, the information should be presented separately for temporary incapacity for work, permanent incapacity for work and fatalities. (***These points are included in paragraphs 15 and 16 of the draft resolution.***)

7. Reference period and periodicity

73. The 13th ICLS recommended that "the statistics should normally cover injuries that were sustained during a calendar year; in any case the period covered should be clearly defined" and "where the statistics of occupational injuries sustained during a year exclude all or some of the resulting lost days and deaths in subsequent years and do not include lost days and deaths during the year which resulted from injuries sustained in previous years, then estimates of the under-count should be provided" (ILO, 1983a, pages I/11 and 12). The ESAW project provides for total time lost to be supplied along with data on the case of injury.

74. In general, the national data refer to cases of occupational injury occurring during the year (usually a calendar year, but in some countries the financial or accounting year). Practices vary, however, with regard to time lost. Some countries include all the time lost due to a case of injury in the statistics for the period in which the injury was incurred; others include time lost in each of the periods in which the time was actually lost. Each approach has its utility. The first shows the full consequences of the injury at the time that it was sustained. The second is more useful for studying the impact of the injury on the victim's work spread over the full period of absence from work. In the draft resolution, it is proposed to adopt the first approach, which was approved by the Meeting of Experts, since it is the most useful for preventive purposes. The Meeting also considered that fatal injuries should be included in the statistics for the reference period during which the occupational accident took place, rather than the period when the death occurred. (***These points are presented in paragraph 17 of the draft resolution.***)

75. Most countries compile their statistics once a year for a calendar year, although a few also compile data for each month or quarter, especially where record-keeping is computerized. If it is suspected that there are seasonal trends in the occurrence of occupational injuries, shorter reference periods would be useful. For example, statistics could be compiled once a year, but could refer to each month or quarter. (***A point to this effect is included as paragraph 18 of the draft resolution.***)

8. Comparative measures

76. The 13th ICLS provided the following guidance on comparative measures:

11. Sound comparisons between periods, industries and countries can only be made if the statistics are considered in conjunction with employment, hours of work, etc. For such purposes, it is desirable to resort to relative measures.

12. Rates should be computed by major divisions of economic activity (industry), and where possible by occupation, distinguishing at least operative or manual workers, and should be presented separately for as many as possible of the items and their A/B subdivisions (...).

13. Incidence rates should use as denominator the average number of people exposed to risk (i.e. those persons covered by the injury statistics). Wherever possible, the number of hours worked by them, the number of hours paid for or failing that, the number of days worked by them, should also be used as a second denominator to calculate frequency rates for non-fatal injuries. For convenience, incidence and non-fatal frequency rates can be expressed per thousand persons and per million hours worked or paid for. In the case of incidence rates, allowance should be made, where appropriate, for the proportion of part-time workers in the population at risk.

14. Data on days (or shifts) lost should be used to calculate (a) the average number of days lost per lost-time injury and (b) days lost per day worked by persons exposed to risk or, failing that, per person exposed to risk.

77. Many countries calculate frequency rates and incidence rates of fatal and non-fatal injuries. In this way, meaningful comparisons may be made between countries with different sizes of workforce or hours of work, between activities employing different numbers of workers, and also over time, since the number of workers and their input in terms of hours of work may vary from one period to another. These rates are also calculated for men and women, and for the different economic activities and occupations, thus providing valuable indicators of those groups with the highest "risk" of occupational injuries.

78. The Meeting of Experts disagreed with the use of the expression "persons exposed to risk", as it is practically impossible to determine the number of workers who are really exposed to a particular risk. The expression "workers in the reference group" was preferred. (***This expression is therefore included in the relevant parts of the draft resolution.***)

Frequency rates

79. A frequency rate is intended to indicate the number of new cases of injury occurring in relation to the amount of time during which workers in the reference group were "exposed to the risk" of being involved in an occupational accident. In calculating frequency rates, the most useful denominator is therefore the number of hours actually worked. (***It is proposed to include this approach in paragraph 19(a) of the draft resolution.***)

Incidence rates

80. Incidence rates relate the number of new cases of occupational injury to the number of workers exposed to the risk of occupational injury. The difficulty in this measure stems from the lack of an appropriate figure for the denominator. In practice, the denominator is usually the total number of persons employed or the total number of persons insured at a particular time during the reference period, rather than workers in the reference group. Unfortunately, where the denominator is the number of persons insured, those who are insured but not working may be included, and the figure for total employment may therefore contain groups that are not covered by the statistics of occupational injuries. Ideally, the denominator should be the average of the number of workers in the reference group throughout the reference period and have the same

coverage as the statistics of occupational injuries. (***This approach is proposed in paragraph 19(b) of the draft resolution.***)

Severity rates

81. Severity rates, in which time lost is measured in relation to the total amount of time worked, are a useful indicator of the consequences of occupational injuries and are therefore important for prevention measures. National practices vary as to the types of indicator used for their calculation. It would therefore be useful to include guidelines in the proposed resolution to assist users of the data in their analyses. Following the practice in certain countries, it is proposed to measure the severity rate as the amount of time lost per million hours actually worked. (***A point to this effect is included in paragraph 19(c) of the draft resolution.***)

Days lost per case of injury

82. Another measure suggested by the Meeting of Experts which could be used for comparing severity is the median number of days lost per case of occupational injury. (***This is included in paragraph 19(d) of the draft resolution.***)

83. It is evident that, when calculating the various comparative measures, both the numerator and the denominator should have the same coverage. For example, if a measure is being calculated for a particular economic activity, the numerator and denominator should both relate only to that particular economic activity. If certain groups, such as the self-employed, are covered in the statistics of occupational injuries, they should also be covered in the denominator. (***Paragraph 20 of the draft resolution reflects this point.***)

9. Dissemination

84. The labour statistics Convention contains the following provision:

Article 6

Detailed descriptions of the sources, concepts, definitions and methodology used in collecting and compiling statistics in pursuance of this Convention shall be —

(a) produced and updated to reflect significant changes;

(b) communicated to the International Labour Office as soon as practicable; and

(c) published by the competent national body.

85. The labour statistics Recommendation calls for the compilation of statistics of occupational injuries at least once a year. The 13th ICLS recommended that the "statistics should be published regularly" and also that, in addition to the information that is required by the labour statistics Convention, information on the quality of the statistics should be furnished along with the published statistics.

86. The majority of countries do publish their data on occupational injuries. In 1997, data for 113 countries were published in the ILO *Yearbook of Labour Statistics* (ILO, 1997d). Nearly 70 countries provided the ILO Bureau of Statistics with methodological information for use in the preparation of *Sources and Methods: Labour Statistics*, Volume 8, on occupational injuries (ILO, 1998c). Methodological information is crucial for the user to understand and analyse correctly the statistics that are compiled, and should therefore be available, in printed or electronic form, or using any other means of dissemination, for all users. (***Proposals regarding the dissemination of the data and methodology are included in paragraphs 21 and 22 of the draft resolution.***)

87. One of the major problems with statistics of occupational injuries is the time lag between the date of the injury and the availability of the final information relating to the injury for inclusion in the statistics. This is due to a number of reasons, including delays in notifying injuries in the first place and the time lag before the total consequences of the injury are known and registered. The Meeting of Experts emphasized the need for timely data, and suggested that the draft resolution should recommend that the statistics be published no later than a certain time after the reference period. (***This is included in paragraph 21 of the draft resolution.***)

88. Because of the delays noted above, most countries revise their published figures for several years. The Meeting of Experts recommended that countries should provide an indication of where revisions have been made when their data are released, so that users can better understand changes in the figures from one release to another. (***A point to this effect is provided in paragraph 21 of the draft resolution.***)

89. Many countries wish to compare their data on occupational injuries with those of other countries. However, differences in classifications, definitions, coverage and other methodological aspects have led to problems of comparability. If countries are able to follow the international recommendations in these areas, improved international comparability would automatically result. However, since this is not always the case, information should be made available preferably in conjunction with the published statistics, so that users can assess the differences between countries. (***It is therefore proposed to include this point in the draft resolution, as paragraph 23.***)

90. The Meeting of Experts considered that dissemination should not be restricted to printed publication, but should include electronic and any other forms. Where possible, the relevant competent authority should make data available on the Internet, so as to facilitate analysis by users throughout the world. (***This point is included in paragraph 24 of the draft resolution.***)

91. The labour statistics Convention contains the following provision:

Article 4

Nothing in this Convention shall impose an obligation to publish or reveal data which could result in the disclosure in any way of information relating to an individual statistical unit, such as a person, a household, an establishment or an enterprise.

92. The aim of this Article is to protect the confidentiality of information relating to individuals, families, employers, etc. Many countries have legislation or rules of this kind, setting out the minimum number of units (persons, households, establishments, etc.) for which data in a particular cell (region, economic activity, occupation, etc.) may be disclosed. (***This point is reflected in paragraph 24 of the draft resolution.***)

93. The Meeting of Experts also recommended that countries should send their data regularly each year to the ILO, and that the ILO should disseminate the data received each year. It should be noted that this is already to a certain extent the case. Each year, between 90 and 100 countries provide their data on occupational injuries to the ILO for publication in the *Yearbook of Labour Statistics*. In addition, most of the 40 countries that have ratified the Labour Statistics Convention are obliged to send their data to the ILO. (***This point is reflected in paragraph 25 of the draft resolution.***)

10. Sources of data

94. The majority of countries continue to compile their statistics of occupational injuries from administrative records: those of labour inspection or health and safety authorities, and those of accident insurance (compensation) schemes. In the 1997 *Yearbook of Labour Statistics*, about three-quarters of the countries stated that their data related to reported injuries, the others to compensated injuries. In most cases, however, the source given was an accident compensation scheme. A few countries, including the Philippines and the United States (for non-fatal injuries), collect their data through establishment surveys.

95. It is clear that the two major sources mentioned above will continue to be the predominant sources for many years. In many countries, their coverage of occupational injuries is fairly wide, at least with respect to paid employment. However, even with the best administrative systems, it is recognized that there is under-reporting. For example, in the European Union, five of the Member States estimate that between 40 and 70 per cent of occupational injuries are not notified and therefore do not appear in their statistics (EUROSTAT, 1997).

96. In addition to under-reporting through notification systems, coverage may otherwise be restricted. Certain types of workers may fall outside the requirements of notification, such as those working at home, part-time workers and trainees. Compensation schemes also tend to exclude certain economic activities, particularly agriculture and the public sector. Moreover, their coverage of the self-employed, if any, is often voluntary. In addition, small and informal sector establishments often fall outside legally required insurance coverage or reporting schemes, as well as surveys of establishments.

97. As a result, the picture of occupational injuries in the majority of countries is only partial. Since expansion of the notification schemes and compensation coverage would take time, and would most probably still be subject to under-reporting, it would be useful to examine other possible sources of information to supplement them. These could include other administrative records, such as those of hospitals and other institutions providing health care, registers of deaths, and surveys, such as those of establishments and households. In 1990, the Health and Safety Executive of the United Kingdom sponsored a supplement to the 1990 Labour Force Survey containing questions on workplace injuries and ill health in order to "establish the true level of workplace injury and of work-related ill health, and also to confirm the degree of under-reporting and the relative risk in the main industries" (Stevens, 1992). The findings showed that, of workplace injuries reportable to a safety authority, employers reported less than a third, and self-employed persons reported less than one in 20. The level of reporting varied between sectors; in manufacturing it was the lowest in smaller workplaces with fewer than 25 employees. In view of the advantages of collecting information on occupational safety and health through such a module attached to a regular labour force survey, the ESAW project proposed this approach for the labour force surveys in the European Union countries. It was agreed recently that most member countries would attach a small module of questions to their regular questionnaire in 1999.

98. It is proposed to include in the draft resolution a recommendation that it would be advantageous to supplement periodically the data obtained from the major sources of information by data from other sources, as described above. This proposal was welcomed by the Meeting of Experts, particularly because of the limited coverage of compensation schemes in certain countries. The development of new sources of information should be introduced and at the same time existing data sources should be exploited fully. (***This point is included as paragraph 26 of the draft resolution.***)

99. Where data from different sources are used in conjunction, the concepts,

definitions and classifications used by these sources may not be compatible. In addition, coverage in terms of types of workers or economic activities may differ. The Labour Statistics Recommendation contains the following guidance in connection with statistical infrastructure:

17. Members should establish appropriate national standard classifications, and should encourage and coordinate the observance as far as possible of these classifications by all bodies concerned.

18. Members should take the necessary steps to harmonize the statistics compiled in pursuance of this Recommendation from different sources and by different bodies.

100. The Meeting of Experts recognized that combining data on occupational injuries from different sources could lead to lower costs of producing statistics, a reduced reporting burden on employers and information on more variables. Linking the data from the different sources could, however, be difficult. In this connection, it would be useful to establish a coordinating committee at the national level comprising representatives of both government and private bodies, so as to avoid the use of different terminology and classifications, as well as duplication of effort. (***These points are included in paragraph 27 of the draft resolution.***)

11. Classification of occupational injuries

101. The most recent international classifications relating specifically to occupational injuries date back to those annexed to the Tenth ICLS resolution, which cover the nature of injury, bodily location of injury, type of accident and agency of injury or accident (ILO, 1976).

102. The 13th ICLS recommended the following classifications:

(a) economic activity, using a classification scheme that is consistent with or convertible to the International Standard Classification of All Economic Activities;

(b) occupation, using a classification scheme that is consistent with or convertible to the International Standard Classification of Occupations;

(c) where possible, sex;

(d) fatal: within 30 days or within 31 to 365 days; or non-fatal: with no lost time, lost time up to three days or more than three days.

A further division into permanent and temporary disablement was suggested, but without further guidance. It was recommended that national classifications should be used for detailed breakdowns of occupational injuries, with an indication of the usefulness of the International Statistical Classification of Diseases, Injuries and Causes of Death. Other classifications which could be useful include those by age group and size of establishment. No particular classification schemes were recommended, apart from the international standard classifications mentioned above (ILO, 1983a, pages I/11 and 12).

103. The code of practice recommends similar classifications to those adopted by the 13th ICLS, but includes as annexes the latest versions of the relevant international standard classifications, namely: the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 3; the International Standard Classification of Occupations (ISCO-88); the International Classification of Status in Employment (ICSE-93); and the classifications adopted by the Tenth ICLS.

104. The Labour Statistics Recommendation calls for the classification of statistics of occupational injuries "at least according to branch of economic activity and, as far as possible, according to significant characteristics of employees (such as sex, age group and occupation or occupational group or level of qualifications) and of establishments".

105. All the variables proposed in paragraphs 9 to 11 of the draft resolution are potential candidates for classification purposes. Given an appropriate computerized recording system, it should be possible to classify and cross-classify using all the variables, providing that confidentiality rules are respected. The Meeting of Experts agreed with this approach, noting that the various classification schemes proposed for inclusion in the revised guidelines were intended to provide countries with a basis for establishing or revising their own classification schemes if necessary, and also to promote the comparability of data on occupational injuries at the international level. It was recommended that such schemes should be simple, clear and easy to understand and apply, and any new schemes should constitute improvements over the previous international classifications. The guidelines should incorporate clear explanations of the various classification schemes. More detailed information on the application of the schemes, as well as more detailed groupings, should be developed for inclusion in a manual. The manual should also deal with questions concerning how the classifications should be applied, by whom and at which level of detail, as well as how the relevant information could be collected and recorded. (***It is therefore proposed in paragraph 28 of the draft resolution that all the variables covered in paragraphs 9 to 11 be used for classification purposes.***)

106. The Meeting of Experts recommended that, where relevant international standard classifications exist, these should be used. The following are the most recent

versions of these classifications:

— *Economic activities:* International Standard Industrial Classification of All Economic Activities (ISIC), Revision 3 (United Nations, 1990);

— *Occupations*: International Standard Classification of Occupations, ISCO-88 (ILO, 1990);

— *Size of establishments* (number of persons engaged): as in the International Recommendations for Industrial Statistics (United Nations, 1983);

— *Status in employment*: International Classification of Status in Employment, ICSE-93 (ILO, 1993, pages 65-72).

107. Other relevant international guidelines in this field are contained in the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (WHO, 1992). Chapter XIX of the ICD-10 contains the classification of "injury, poisoning and certain other consequences of external causes" in two sections, one dealing with different types of injuries related to single body regions, and the other covering injuries to multiple or unspecified body regions, as well as poisoning and other consequences of external causes. Chapter XX contains categorizations in respect to external causes of morbidity and mortality. Further subdivisions can be made to identify the place of occurrence of the external cause, where relevant, and to indicate the activity of the injured person at the time of the event. The latter refers to a number of activities, with little detail regarding work activities.

108. Regarding the classifications of type of injury and part of the body injured, following a recommendation by the Meeting of Experts, the Office held consultations with WHO. It is not possible to use the ICD-10 directly nor to use the same coding, because the structure of the pertinent categories (codes S — different types of injuries related to single body regions — and T — injuries to multiple or unspecified body regions, as well as poisoning and certain other consequences of external causes) represents a combination of both the part of the body injured and the type of injury. In collaboration with WHO, the Office therefore developed classification schemes and coding for these two variables. (***These are contained in Annexes E and F of the draft resolution.***)

109. The Meeting of Experts considered a classification of "work environment" based on the draft scheme under development by EUROSTAT. The ICD-10 includes a "place of occurrence" classification, which comprises categories of location where accidents occurred. The main advantages of the latter are that the categories have been developed and agreed on within the framework of international standard guidelines. The scheme will shortly be applied in over 40 countries for their statistics of mortality and morbidity, and is similar to schemes already applied in several countries for their statistics of occupational injuries. Moreover, its use would facilitate the exploitation of data from different types of source. It also allows for a broader view than the more restricted concept "work environment". Consequently, the ICD-10 classification of place of occurrence is proposed in place of the earlier "work environment" classification.

110. ***It is recommended that the classification schemes noted above be used for the classification of occupational injuries, as reflected in paragraph 28 of the draft resolution. They are presented as Annexes A to G of the draft resolution.***

111. The Meeting of Experts considered draft classifications of work processes, the activity of the injured person, deviations from the normal, mode of injury, item or agency associated with the work process and commuting accidents. In the absence of any international standard classifications in these areas, or of recent classifications, the Office suggested schemes which followed closely the work being carried out by EUROSTAT within the framework of the ESAW project. These are still very much at the draft stage, and have not yet been fully tested or implemented. The Meeting of Experts

found them interesting, but felt more development work was required before they could be adopted.

112. Many countries currently require guidance in establishing or revising their notification systems or in setting up statistical systems for occupational injuries. Others want to be able to compare their data with those of other countries, but are unable to do so because of the lack of harmonization in classifications. For both these purposes, it would be desirable for the resolution not just to recommend the types of classification that should be made, but to include the different classification schemes themselves. However, it is difficult at this stage for the Office to propose concrete schemes mentioned in the previous paragraph, because considerable development and field testing are still required. ***It is therefore suggested that the Conference consider these classifications on the basis of the principles underlying each of them, as set out below***. If the Conference is able to reach agreement on the principles underlying the different schemes, and if it so wishes, the schemes could be incorporated in the resolution.

113. For these proposed classification schemes, the Office has been inspired to a large extent by the work of the ESAW project, which has made considerable progress in the past few years in the development of relevant classification schemes, as well as by the schemes developed in such countries as Australia, Canada, the Nordic countries and the United States.

114. While examining the proposed classification schemes, it should be kept in mind that the draft resolution concerns statistics of occupational injuries. These statistics cannot provide all the information necessary to understand exactly how all occupational accidents occur, nor all their consequences. The information must be kept simple and easy to understand and apply, so as to enable the provision of timely and reliable statistics. For example, it is not possible, through the normal reporting of occupational injuries or surveys of households, to collect very detailed information about the injuries and accidents concerned. Such information would only be available through investigations of individual accidents.

115. The classification schemes described below are presented only at the first level that would be required for statistical purposes. More detailed levels within the major groups could be developed by each country in accordance with its own needs and circumstances, once the principles for the major groups have been established.

Classification of location of the accident

116. This is the location where the accident occurred; that is the usual workplace of the person injured, or another place. The categories proposed below are based on those used in several countries, including France and Slovenia.

Code	Designation
A	At the usual workplace
B	At a place within the establishment other than the usual workplace
C	Outside the establishment but on the premises
D	On official travel
E	On the way from home to work
F	On the way from work to home
Z	Location of accident, unspecified

Classification of the consequences of injuries

117. This classification is expressed in terms of ranges of the number of days of

absence from work, counted in calendar days from the day following the day of the accident, up to a maximum of one year, or fatal injuries. The objective is to give an indication of the severity of injuries in terms of the amount of time required before the victim is able to return to work. The groups proposed are intended for purposes of international comparisons; other ranges may be developed by each country in response to national needs and circumstances. The upper limit of one year was suggested by the Meeting of Experts as the limit beyond which injuries may generally be considered to have led to permanent incapacity for work. This limit is somewhat arbitrary and national practices vary in this respect. However, the concern is to ensure that national statistics are produced as soon as possible, without too much revision, which would be the case if no upper limit were to be established. Cases in which more than one year is lost would be included in group Z. The other groups have been established in accordance with the most frequent lower threshold applied by countries for the duration of absence from work (three days in a quarter of the countries for which information is available) and in terms of weeks or months.

Code	Designation
A	1 to 3 days of absence from work
B	4 to 7 days of absence from work
C	8 to 14 days of absence from work
D	15 to 21 days of absence from work
E	22 days to 1 month of absence from work
F	1 to 3 months of absence from work
G	3 to 6 months of absence from work
H	6 to 12 months of absence from work
Y	Fatal injury
Z	Consequences not elsewhere classified

Classification of work processes

118. No country currently applies a classification according to work process. The work process denotes the main type or kind of work being carried out by the victim at the time of the accident. It is not the occupation of the victim nor the economic activity in which he or she works, which are broader concepts. Nor is it the specific activity of the victim at the moment of the accident. It is a description of the type of activity or work being carried out by the victim during the period of time ending at the instant of the accident, or in other words a subset of the tasks covered by the occupation of the victim.

119. The proposals below are based on those currently being tested within the European Union as part of the ESAW project.

Code	Description
A	Production, transformation, processing, storing — for mining, manufacturing, electricity, gas and water
B	Construction, demolition, excavation
C	Agricultural, forestry and horticultural production, and fishing, fish hatcheries and farms
D	Other production-related activities (Setting up, preparation, installation, mounting, disassembling and dismantling of machines and equipment; maintenance, repair, tuning and adjusting of machines and equipment; cleaning of working areas, machines and equipment; waste management, disposal and waste treatment of all kinds;

monitoring and inspection of production processes, working areas and means of transportation; etc.)	E
Services, intellectual and commercial activities (Services, care and other assistance to human beings; intellectual activities: teaching, data processing, office tasks, organizing, managing;	commercial activities: buying, selling, associated services; etc.)

F Other activities
(Movement, presence and displacement, including on board a means of transport; sporting and artistic activities; etc.)

G Other general activities not elsewhere classified

Classification according to specific activity

120. This denotes the activity actually being carried out by the victim when the accident occurred. The duration of the activity may range from very short to long. It may or may not be associated with an item or object.

121. The proposals below are based on those currently being tested within the European Union as part of the ESAW project.

Code **Description**

A Operating machines
(Starting or stopping the machine; feeding the machine, taking away from the machine; monitoring or operating the machine; etc.)

B Working with hand-held tools
(Working with manual hand-held tools, with power-driven hand-held tools, etc.)

C Operating or passenger on transport equipment
(Operating power-driven transport equipment; operating non-powered transport equipment; passenger on board transport equipment; etc.)

D Manual handling
(Taking hold of, grasping, seizing, holding in hand — on a horizontal plane; ligaturing, binding, tearing off, undoing, squeezing, unscrewing, screwing, turning; fastening on or on to, hanging up, putting up — on a vertical plane; throwing, flinging away; opening, undoing (boxes, packages, parcels, containers); pouring, filling into, replenishing, spraying down, emptying, scooping; sorting; opening or closing: pulling (drawer), pushing (door or hangar, office, wardrobe, cabinet); etc.)

E Manual transportation
(Vertical transportation: lifting, raising, lowering; horizontal transportation: pulling, pushing, rolling; carrying loads; etc.)

F Movement
(Walking, running, etc.; jumping, hopping, etc.; crawling, climbing, etc.; rising, sitting down; movements on the spot: showering, washing, dressing, undressing, etc.)

G Presence
(Presence under; presence in vicinity of; presence in, on, etc.)

Z Other specific activities not elsewhere classified

Classification of deviations from the normal

122. This classification concerns what occurred in an abnormal way: a deviation from the normal way of working or the normal process or, in other words, what went wrong. The deviation is the event leading to the accident. If there are several interlinked or successive events, the last one should be recorded.

123. The Meeting of Experts, in considering proposals for a classification of deviation from the normal, drew attention to the need to use terms which did not assign

responsibility for the accident. The classification would correspond only to the last event in a chain, and the real cause of the accident could not usually be identified adequately. It was felt that the term "deviation" was not necessarily appropriate, but it has not been possible to identify another term which conveys the sense of abnormality. "Cause of accident" is to be avoided, for the reasons given above. Therefore, the term "deviation" has been left as a provisional term. Many countries classify their data according to "cause of accident", including Croatia, Denmark, Mexico, New Zealand, Poland, South Africa and Venezuela, although Mexico uses the term "unsafe act" (*acto inseguro*) and Venezuela refers to "unsafe equipment" (*inseguridad del equipo*), "imprudent acts" (*actos de imprudencia*) and "unsafe personal factors" (*elementos de inseguridad personal*).

124. The proposals below are based on those currently being tested in the European Union as part of the ESAW project.

Code	**Description**
A	Deviations caused by electricity, explosion or fire (Electrical deviations due to a failure in installation, indirect contact; electrical deviations caused by direct contact; explosion; fire, flare up; etc.)
B	Deviation caused by overflow, overturn, leak, flow, vaporization, emission (Solid state — overflowing, overturning; liquid state — leaking, oozing, flowing, splashing, spraying; gaseous state — vaporization, aerosol formation, gas emission; pulverulent materials — smoke generation, suspension or emission of dust or particles; etc.)
C	Breakages, fractures, bursting, deformations, slips, falls, collapse of elements (Breakages of material, at joints, connections; breakages, bursting, causing splinters (wood, glass, metal, stone, plastic, etc.); slips, falls, collapse, etc. of elements from above (on to the victim); slips, falls, collapse, etc. of elements from below (dragging the victim down); etc.)
D	Loss of control of machines, tools, means of transport, means of conveyance, animals (Loss of control of machines (including unwanted start-up); loss of control of means of transport, conveying, etc. (power driven or not); loss of control of hand-held tools (power driven or not); loss of control of objects; loss of control of animals; etc.)
E	Falls of persons (Falls to a lower level; on the same level; etc.)
F	Body movements (person in movement) (Walking on a sharp object; kneeling on, sitting on, leaning against; movement of hands and arms; treading badly, tripping without falling; etc.)
G	Body movements (person stationary) (Inappropriate lifts; inappropriate pushes or pulls; inappropriate twists or turns; inappropriate presence of the victim; etc.)
H	Violence, aggression, miscellaneous (Shock, fright; violence, fight (between persons working for the same enterprise); violence, aggression (from persons outside the enterprise towards victims performing their duties, e.g. bank hold-ups, attacks on bus drivers, attacks by dissatisfied customers or employees); involuntary blows from another person; inappropriate presence of object (obstruction); aggression by animals or insects; etc.)
Z	Other deviations, not elsewhere classified

Classification of mode of injury

125. This relates to how the person was injured (physical or psychological contact) by the item or object of injury. If there are several possibilities, the one causing the most serious injury should be recorded.

126. The proposals below are once again based on those currently being tested within the European Union as part of the ESAW project.

Code	Description
A	Contact with electrical voltage, temperatures, hazardous substances (Indirect contact with a welding arc, sparks, lightning (passive); direct contact with electricity, receipt of electrical charge in body; contact with naked flames or with hot or burning objects or surroundings; contact with cold or frozen objects or surroundings; infection; contact through airways or inhalation; contact on or through skin and eyes; contact through digestive system or swallowing or eating; etc.)
B	Drowned, buried, enveloped (Drowned in (liquid); buried under (solid); enveloped by, entwined in (gas or airborne particles); etc.)
C	Fall, crash into a stationary object (victim is in motion) (Fall; crash into; etc.)
D	Struck by objects in motion, collision with (Struck by objects flung out; struck by falling objects; struck by swinging objects; struck by rotating, moving or travelling objects; collided with objects in motion (victim is in motion); etc.)
E	Contact with sharp, pointed, rough or course elements (Contact with sharp elements (knives, blades, etc.); with pointed elements (nails, tools, skewers, etc.); with rough or course elements; etc.)
F	Trapped, crushed, etc. (Trapped, crushed in; trapped, crushed under; trapped, crushed between; etc.)
G	Acute overloading of body, physical constraint (Acute overloading due to mechanical impact or influence; acute overloading due to radiation waves, noises; acute mental overloading (e.g. mental shock); etc.)
H	Bites, kicks, blows, etc. (from animals and human beings) (Bites; stings; blows, kicks, butts, stranglehold; etc.)
Z	Other known contacts, not elsewhere classified

Classification of the material item or agency

127. This refers to the item, agent, object or product associated with:

(a) the specific activity: the tool, object, element, etc. used by the victim when the accident happened (this may not necessarily be implicated in the accident);

(b) the deviation: the tool, object, element, etc. linked to the abnormality of the process, linked with what occurred in an abnormal way (e.g. burst, exploded, fell, dropped, etc.);

(c) the injury: the physical tool, object, element, etc. with which the victim came into contact and which caused the injury, or the psychological phenomenon.

If there are several injuries, the item associated with the most serious injury should be recorded. Most countries classify occupational injuries according to the agency of injury,

some using extremely detailed schemes, while others limit their data to about a dozen groups. Terminology tends to vary somewhat, including agency, agent, source, cause, hazard, material cause and instrumental cause. The ICD-10 uses the expression "product", which is also used in the NOMESCO classification of external causes of injury (NOMESCO, 1997).

128. The proposals below are based on those currently being tested within the European Union as part of the ESAW project.

Code	**Description**
A	Buildings, working areas on the same level (indoor, outdoor, stationary, fixed or temporary) (Building components, construction components (doors, walls, partitions) and voluntary obstacles; working areas, circulation areas, grounds (indoor or outdoor, farming areas, sports grounds); working areas, circulation areas on the same level or on water; etc.)
B	Buildings, constructions, working areas at height (indoor or outdoor) (Working areas (parts of buildings), stationary, at height (roofs, terraces, openings, stairs, platforms); constructions, working areas, stationary, at height (including gangways, stationary ladders, pylons); construction, working areas, mobile, at height (including scaffolding, movable ladders, cradles, raising platforms); constructions, working areas, temporary, at height (including temporary scaffolding, harnesses, swings); constructions, working areas, at height, on water (including oil rigs, scaffolding on barges); etc.)
C	Buildings, constructions, working areas, at depth (indoor or outdoor) (Excavations, trenches, wells; underground galleries; under water; etc.)
D	Means of distribution of materials (feeding devices, pipes) (Stationary means of distribution, feeding devices, pipes; movable means of distribution, feeding devices, pipes; sewage pipes, drains; etc.)
E	Engines, prime movers, transmission devices (Motors, prime movers, generators (internal combustion, electric, rays); power transmission means and prime movers for stockpiling (mechanical, pneumatic, hydraulic, including batteries and accumulators); etc.)
F	Hand tools (not power-driven) (Tools for sawing; tools for cutting, separating (scissors, shears, secateurs); for carving, mortising, chiselling, clipping, mowing; for scraping, polishing, sanding; for drilling, turning, screwing; for nailing, riveting, stapling; for sewing, knitting; for welding, gluing; for extraction of materials and working the soil (including agricultural tools); for waxing, lubricating, washing, cleaning; for painting; for holding an object in place; for cooking; pricking or cutting tools for medical and surgical work; other tools for medical and surgical work; etc.)
G	Power-driven hand tools or hand-guided tools (Tools for sawing; for cutting, separating (scissors, shears, secateurs); for carving, mortising, chiselling, clipping, mowing; for scraping, polishing, sanding; for drilling, turning, screwing; for nailing, riveting, stapling; for sewing, knitting; for welding, gluing; for extraction of materials and working the soil (including farming tools, concrete breakers); for waxing, lubricating, washing, cleaning (including vacuum cleaners, high pressure cleaning devices); for painting; for holding an object in place; for cooking; for heating (including dryers, thermal packing machines, irons); pricking or cutting tools for medical and surgical work; other tools for medical and surgical work; etc.)
H	Machines and equipment, portable and mobile

(Portable and mobile machines for extraction and working the soil in mining, quarrying and civil engineering; portable and mobile machines for working the soil, for agriculture; etc.)

I Machines and equipment, stationary
(Machines for extraction and working the soil; for the preparation of materials, crushing, pulverizing, filtering, separating, mixing, blending; for the transformation of materials — chemical processes, reactive and fermenting processes; for the transformation of materials — processes using heat (ovens, dryers, steam rooms); for the transformation of materials — processes using cold temperatures (generation of cold); for the transformation of materials — other; machines for forming by pressing, flattening; for forming materials by calendering and rolling, machines with cylinders (including machines for the paper industry); for forming material by injection, extrusion, blowing, spinning, moulding, melting, casting; machine tools for planing, spindling, surface treatment, grinding, polishing, turning, drilling; for sawing; for cutting, splitting, clipping (including cutting presses, guillotine shears, guillotines); machines for treating surfaces — cleaning, washing, drying, painting, printing; for treating surfaces — galvanizing, electrolytic treatment of surfaces; for assembling — welding, gluing, nailing, screwing, riveting, spinning, cabling, sewing, stapling; for pre-packaging, packaging — filing, labelling, closing; etc)

J Means of conveying, transporting and storing
(Stationary conveyors, materials and continuous handling systems; elevators, lifts, hoisting devices; stationary and movable cranes, on vehicles, gantries; hoisting devices — for suspended loads; movable handling devices, handling trucks (motorized or not); hoisting, strapping, prehension (grasping) devices and various handling devices; storage and packaging equipment, containers, silos, tanks — stationary; storage and packaging equipment, containers — mobile; shelves, tools for handling pallets, pallets; miscellaneous containers, small and medium — mobile (skips, bottles, boxes); etc.)

K Land vehicles
(Heavy goods vehicles; light vehicles; vehicles with two or three wheels, motorized or not; self-propelled agricultural tractors (when being used for transport, rather than as machines for working the soil); civil engineering vehicles, mobile cranes (when being used for transport from one place to another, rather than as machines)

L Other vehicles
(Waterborne vehicles; aeroplanes and other airborne vehicles; vehicles on rails, including suspended monorails; etc.)

M Agents, substances, materials, objects, component parts of machines
(Non-stocked products — objects lying on the ground, mobile obstacles, finished parts, tools from machines, agricultural products; stocked products — including the objects and packages laid in a storage; loads carried on a handling or transportation device; loads suspended from a hoisting device, crane; loads handled by hand; etc.)

N Chemical substances (including radioactive and biological substances)
(Caustic, corrosive substances — solid, liquid or gas; harmful, toxic substances — solid, liquid or gas; flammable substances — solid, liquid or gas; exploding, reacting substances — solid, liquid or gas; gas, vapours — inert for life, suffocating; radioactive substances; biological substances; etc.)

O Safety devices and equipment
(Safety devices on machines; individual protection equipment; safety devices and gear; etc.)

P Office equipment, personal equipment, sports equipment, weapons
(Office furniture; computer equipment, office automation devices; reprography equipment, communication equipment; equipment for teaching, writing, drawing; objects and equipment for sports and games; weapons; personal items, clothing; musical instruments; etc.)

Q Living organisms, including human beings
(Trees, plants and plantations; domestic and breeding animals; wild animals, insects, snakes; human beings, etc.)

R Waste in bulk
(Waste, refuse in bulk of raw materials, products, materials, objects; of chemical substances; waste, of biological substances, animals, plants; etc.)

S Physical phenomena and elements
(Physical phenomena, noises, natural radiations; natural and atmospheric elements (including watered areas, mud, rain, hail, snow, ice); natural disasters (including floods, volcanoes, earthquakes, tidal waves); etc.)

Z Other material agents not elsewhere classified

Classification of commuting accidents

129. The following classifications are based on the Codes for Vehicle Accidents contained in the NOMESCO Classification of External Causes of Injuries (NOMESCO, 1997).

(a) Classification of place of accident

Code	Description
A	Pavement, pedestrian mall (including footbridge, tunnel and stairs in pedestrian areas)
B	Cycleway
C	Motorway
D	Public road outside urban area (including intersection between railroad or tram rails and road)
E	Public road inside urban area (including intersection between railroad or tram rails and road)
F	Road, unspecified (including private road accessible to the public, intersection between railroad or tram rails and road)
G	Bus station, railway area, etc. (including coach, track area, subway, shunting yard, platform, waiting room with adjoining walking areas and access roads)
H	Quay, trackway and vehicle access route in docks
I	Sea, lake or river
X	Transport area, not elsewhere classified
Z	Transport area, not specified

(b) Classification of the injured person's mode of transport

Code	Description
A	Pedestrian (person on foot and user of pedestrian conveyance, such as ice-skates or roller skates, skateboard, scooter, skis, sledge, wheelchair)
B	Bicycle
C	Moped
D	Motorcycle, motor scooter (including cross-country motorcycle with two wheels or more)
E	Passenger car
F	Van, pick-up truck (vehicle with a total weight of up to and including 3,500 kilograms)
G	Lorry, truck, etc. (vehicle with a total weight of more than 3,500 kilograms)
H	Bus
I	Streetcar or tram
J	Train
K	Ships, boats, etc.
L	Aircraft
M	Animal or animal-drawn vehicle
Y	Injured person's mode of transport, not elsewhere classified (including tractor, fork-lift truck, train, tramcar, off-road scooter, combine harvester and other self-propelling agricultural machinery; excluding chair sled, sledge)
Z	Injured person's mode of transport, unspecified

(c) Classification of the injured person's transport role

Code	Description
A	Pedestrian
B	Driver (of any type of land, air or waterborne vehicle)
C	Passenger
D	Person boarding or alighting (from any type of vehicle)
Y	Injured person's traffic role, not elsewhere classified
Z	Injured person's traffic role, unspecified

(d) Classification of the counterpart's mode of transport

Code	Description
A	No counterpart (comprises single accidents, fall of bicycle on the roadway, collision with parked vehicles, crash fence, animals, stationary objects such as trees, lamp posts, etc.)
B	Pedestrian (person on foot and user of pedestrian conveyance such, as ice-skates or roller skates, skateboard, scooter, skis, sledge, wheelchair)
C	Bicycle
D	Moped
E	Motorcycle, motor scooter (including cross-country motorcycle with two wheels or more)

F Passenger car

G Van, pick-up truck (vehicle with a total weight of up to and including 3,500 kilograms)

H Lorry, truck, etc. (vehicle with a total weight of more than 3,500 kilograms)

I Bus

J Streetcar or tram

K Train

L Ships, boats, etc.

M Aircraft

N Animal or animal-drawn vehicle

Y Counterpart's mode of transport, not elsewhere classified (including tractor, fork-lift truck, train, tramcar, off-road scooter, animal, ship, boat, aircraft, combine harvester and other self-propelling agricultural machinery; train only in the case of collision with road users on public roads)

Z Counterpart's mode of transport, unspecified

12. Further work

130. The Meeting of Experts recommended that the ILO should provide assistance to countries in establishing their programmes for compiling and disseminating the statistics covered in the draft resolution. It noted that full practical guidance could not be included in the draft resolution. This would be more suitable for inclusion in a manual or handbook, which could deal in more detail with the provisions of the draft resolution. It could also cover, for example, the collection of information on occupational injuries in the informal sector and among child workers, as well as the collection of information through household surveys. The Meeting further considered that the various classification schemes, including detailed groupings, should be developed and field-tested for inclusion in a manual. The manual should also deal with questions concerning how the classifications should be applied, by whom and at which level of detail. (***A point concerning the preparation of a technical manual is included in paragraph 30 of the draft resolution.***)

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Appendix

Draft resolution concerning statistics of occupational injuries

The Sixteenth International Conference of Labour Statisticians,

Having been convened at Geneva by the Governing Body of the International Labour Office and having met from 6 to 15 October 1998,

Recalling the resolution concerning statistics of occupational injuries adopted by the Thirteenth International Conference of Labour Statisticians (1982),

Recalling the Code of practice on the recording and notification of occupational accidents and diseases, approved by the Governing Body of the ILO at its 261st Session (November 1994),

Observing that the existing international standards on statistics of occupational injuries do not provide adequate guidance on the measurement and classification of occupational injuries,

Recognizing that statistics of occupational injuries should form part of a broad programme of statistics of occupational safety and health,

Recognizing that statistics of occupational injuries are essential for effective programmes for the prevention of occupational accidents, and for their monitoring,

Recognizing further that international guidelines on the measurement and classification of occupational injuries will promote the development of these statistics along sound lines and improve their international comparability;

Adopts this .... day of October 1998 the following resolution:

General objectives and uses

1. Each country should aim to develop a comprehensive programme of statistics on occupational safety and health in order to provide an adequate statistical base for the various users, taking into account the specific national needs and circumstances. One of the major components of this programme should comprise statistics on occupational injuries, which may be used in conjunction with other appropriate economic and social indicators.

2. This resolution aims to set out minimum standards of good practice for statistics of occupational injuries as guidance for countries wishing to revise their existing statistical systems in this field, or establish new ones. Its provisions should not undermine any existing national systems, nor should they lead to duplication of effort.

3. The principal objective of the statistics is to provide comprehensive, comparable information on occupational accidents and injuries for the purposes of their prevention. The statistics may be used for the following purposes, inter alia:

(a) to identify the occupations and economic activities where occupational injuries occur, along with their extent, severity and the way in which they occur, as a basis for planning preventive measures;
(b) to set priorities for preventive efforts;
(c) to detect changes in the pattern and occurrence of occupational injuries, so as to monitor improvements in safety and reveal any new areas of risk;
(d) to inform employers, employers' associations, workers and trade unions of the risks associated with their work and workplaces, so that they can take an active part in their own safety;
(e) to evaluate the effectiveness of preventive measures;
(f) to estimate the cost of occupational injuries, particularly in terms of days lost or absence from work;
(g) to provide a basis for policy-making aimed at enhancing financial incentives for employers, employers' associations, workers and trade unions to introduce accident prevention measures;
(h) to assist in developing training material and programmes for accident prevention; and
(i) to provide a basis for identifying possible areas for future research.

4. The major users of the statistics, including the representative organizations of employers and workers, should be consulted when the concepts, definitions and methodology for the collection, compilation and publication of the statistics are designed or revised, with a view to taking into account their needs and obtaining their cooperation.

Terms and definitions

5. For the purposes of statistics of occupational injuries, the following terms and definitions are used:

(a) *occupational accident*: an unexpected and unplanned occurrence, including acts of non-consensual violence, arising out of or in connection with work which results in personal injury, disease or death;

(b) *commuting accident*: an accident occurring on the habitual route between the place of work and:

(i) the worker's principal or secondary residence;

(ii) the place where the worker usually takes his or her meals;

(iii) the place where he or she usually receives his or her remuneration; or

(iv) the place where he or she receives training;

which results in death or personal injury involving loss of working time;

travel, transport or road traffic accidents in which workers are injured and which arise out of or in the course of work, i.e. while engaged in an economic activity, or at work, or carrying on the business of the employer, are considered to be occupational accidents;

(c) *occupational injury*: any personal injury, disease or death resulting from an occupational accident;

(d) *case of occupational injury*: the case of one person incurring an occupational injury as a result of one occupational accident;

(e) *incapacity for work*: inability of the injured person to perform the normal duties of work in the job or post occupied at the time of the occupational accident causing the injury.

Coverage

6. The statistics should cover all occupational injuries, as defined in paragraph 5, including fatal injuries and non-fatal injuries causing an absence from work of at least one day, excluding the day of the accident. Where it is considered relevant to include injuries resulting from commuting accidents, the information relating to them should be compiled and disseminated separately.

7. Where practical, the statistics should cover all workers regardless of their status in employment, including child workers, informal sector workers and homeworkers, where they exist.

8. The programme of statistics should in principle cover the whole country, all branches of economic activity and all sectors of the economy. A case of occupational injury occurring while a worker is outside the country of normal residence should be included in the statistics of the country within whose jurisdiction the accident took place.

Types of data

9. As a minimum, countries should aim to collect the following types of information regarding cases of occupational injury:

(a) information about the employer and the enterprise or establishment:

(i) location;

(ii) economic activity;

(iii) size of establishment (number of workers);

(b) information about the person injured:

(i) sex;

(ii) age;
(iii) occupation;
(iv) status in employment;

(c) information about the injury:
(i) whether fatal or non-fatal;
(ii) type of injury;
(iii) part of body injured;

(d) information about the accident and its sequence:
(i) type of location of the accident: *such as the usual workplace, another place within the establishment, outside the premises of the establishment, etc.*;
(ii) date and time of the accident;
(iii) mode of injury: *how the person was injured by a physical or psychological contact with an item or object which caused the injury; if there are several possibilities, the mode of contact of the most serious injury should be recorded*;
(iv) material agency of injury: *the item, agent, object or product associated with the injury, i.e. the physical tool, object, element, etc. with which the victim came into contact and which caused the injury, or the psychological phenomenon which caused it.*

10. The programme should aim at the collection of progressively more detailed information in addition to the types of data mentioned in paragraph 9, as follows (subparagraph numbering follows on from paragraph 9):

(c) information about the injury:
(iv) incapacity for work expressed in calendar days of absence from work;

(d) information about the accident and its sequence:
(v) shift, start time of work of the injured person and hours worked in the activity when the accident occurred;
(vi) the total number of workers injured in the accident;
(vii) place of occurrence: *the type of location where the accident occurred, such as a home, residential institution, school, other institution or public administrative area, sports or athletics area, street or highway, trade or service area, production or construction area, farm, forest, river, etc.*;
(viii) work process in which the injured person was engaged when the accident occurred: *the main type or kind of work being carried out by the victim during the period up to the accident (this is a subset of the tasks covered by the occupation of the victim)*;
(ix) specific activity of the injured person at the time of the accident: *the activity actually being carried out by the victim when the accident occurred; the duration of the activity may range from very short to long; it may or may not be associated with an item or object*;
(x) material item associated with the specific activity of the injured person: *the tool, object, element, product, etc. used by the victim in the specific activity when the accident happened (this may not necessarily be implicated in the accident)*;
(xi) deviation which resulted in the accident: *what occurred in an abnormal way, deviating from the normal way of working or the normal process, i.e. what went wrong; the event leading to the accident; if there are several interlinked or successive events, the last one should be recorded*;
(xii) material item associated with the deviation: *the tool, object, element, product, etc. linked with what occurred in an abnormal way (e.g. burst, exploded, fell, dropped, etc.).*

11. Where injuries due to commuting accidents are covered, information corresponding to that provided for in paragraph 9 should be collected, as well as the following:

(a) place of accident;
(b) the injured person's mode of transport;
(c) the injured person's transport role;
(d) the mode of transport of the counterpart (if any).

Measurement

Occupational injury

12. The unit of observation should be the *case of occupational injury*, i.e. one person who is injured in one occupational accident. If a person is injured in more than one occupational accident during the reference period, each case of injury to that person should be counted separately. A recurrence of an injury due to a single occupational accident should be treated as a continuation of the same case of injury, not a new case of injury. Where more than one person is injured in a single accident, each case of occupational injury should be counted separately.

Fatal occupational injury

13. A fatal occupational injury should be measured as an occupational injury leading to death within one year of the day of the occupational accident causing the injury.

Time lost due to occupational injuries

14. Time lost should be measured separately for each case of occupational injury leading to temporary incapacity for work. It should be measured in terms of the number of calendar days during which the injured person is temporarily incapacitated, in order to assess the severity of the injury. If time lost is measured in workdays, attempts should be made to assess the total number of calendar days lost.

15. The time lost should be measured inclusively from the day after the day of the accident, to the day prior to the day of return to work. In the case of recurrent absences due to a single case of occupational injury, each period of absence should be measured as above, and the resulting number of days lost for each period summed to arrive at the total for the case of injury. Temporary absences from work of less than one day for medical treatment should not be included in time lost.

16. The time lost as a result of permanent incapacity for work or fatal occupational injuries may also be estimated. In these cases, the data should be compiled and disseminated separately from data relating to temporary incapacity for work.

Reference period and periodicity

17. For a given reference period, the statistics should relate to the number of cases of occupational injury occurring during the period and the total time lost as a result of those cases of injury. Cases of fatal injury should be included in the statistics for the reference period during which the occupational accident occurred.

18. The statistics should be compiled at least once a year for a reference period of not more than a year. Where seasonal trends may be considered to be important, the statistics may be compiled more frequently, using shorter reference periods, such as a month or a quarter.

Comparative measures

19. In order to permit meaningful comparisons of the statistics, for example between different periods, economic activities, regions and countries, account needs to be taken of the differences in employment size, changes in the number of workers in the reference group, as well as in the hours worked by those in the reference group. A number of rates which take into account these differences may be calculated, including the following measures, which are among those most useful for comparing information at both the national and international levels. The term "workers in the reference group" refers to those workers in the particular group under consideration, such as those of a specific sex or in a specific economic activity, occupation, region, age group, etc. or any combination of these.

(a) The frequency rate of new cases of occupational injury:

$$\frac{\text{Number of new cases of occupational injury during the reference period}}{\text{Total number of hours worked by workers in the reference group during the reference period}} \times 1{,}000$$

This may be calculated separately for fatal and non-fatal occupational injuries. Ideally, the denominator should be the number of hours actually worked by workers in the reference

group. If this is not possible, it may be calculated on the basis of normal hours of work, taking into account entitlements to periods of paid absence from work, such as paid vacations, paid sick leave and public holidays.

(b) The incidence rate of new cases of occupational injury:

$$\frac{\text{Number of new cases of occupational injury during the reference period}}{\text{Total number of workers in the reference group during the reference period}} \times 1{,}000$$

This may be calculated separately for fatal and non-fatal injuries. The number of workers in the reference group should be the average for the reference period. In calculating the average, account should be taken of the hours normally worked by those persons. The number of those working part time should be converted to full-time equivalents.

(c) The severity rate of new cases of occupational injury:

$$\frac{\text{Number of days lost as a result of new cases of occupational injury during the reference period}}{\text{Total amount of time worked by workers in the reference group during the reference period}} \times 1{,}000{,}000$$

This should be calculated separately for temporary incapacity for work, permanent incapacity for work and fatal injuries. The amount of time worked by workers in the reference group should preferably be measured in hours worked.

(d) Days lost per new case of occupational injury:

Median of the number of days lost for each new case of occupational injury during the reference period.

All the measures may be calculated according to economic activity, occupation, age group, etc., or any combination of these.

20. For each of the measures, the numerator and the denominator should have the same coverage. For example, if self-employed persons are covered in the statistics of occupational injuries they should also be covered in the denominator.

Dissemination

21. The statistics of occupational injuries that are compiled should be disseminated regularly, at least once a year; preliminary figures should be released no later than one year after the end of each reference period. The disseminated data should include time series, as well as the data for the most recent reference period. Any revisions to figures released in the past should be clearly indicated in newly disseminated data.

22. Detailed descriptions of the sources, concepts, definitions and methodology used in collecting and compiling the statistics on occupational injuries should be:

(a) produced and updated to reflect significant changes;

(b) disseminated by the competent body;

(c) communicated to the ILO.

23. In order to promote the comparability of the statistics among countries whose national statistical practices do not conform closely to the international standards, the disseminated data should be accompanied by an explanation of any divergences from those standards.

24. Dissemination may take the form of printed publications, electronic data sets, etc. Where possible, the relevant competent authority should make data available on the Internet, so as to facilitate analysis by users throughout the world. The statistics should be disseminated in such a way that the disclosure of any information relating to an individual statistical unit, such as a person, household, an establishment or an enterprise is not possible, unless prior permission has been obtained from the individual units concerned.

25. The national statistics should be communicated to the ILO each year for dissemination by the ILO in the *Yearbook of Labour Statistics* and other forms.

Sources of data

26. In compiling statistics of occupational injuries, various sources of information should be used in order to provide as full a picture as possible of the situation at a given point in time and to

give an estimate of any under-reporting which may occur. In addition, the feasibility of developing new sources should be examined. For example, consideration could be given to periodically supplementing the information available from systems for the notification of compensation of occupational injuries by adding brief modules of questions to existing survey questionnaires, such as those used for establishment surveys for employment and wages, and for labour force surveys.

27. Where data from different sources are used together, attempts should be made to ensure that the concepts, definitions, coverage and classifications used by the different sources are consistent. To this end, it would be useful to establish a coordinating committee at the national level, comprising representatives of government and private bodies. In addition, efforts should be made to harmonize the statistics compiled from different sources and by different bodies.

Classification

28. The data should be classified at least according to major branch of economic activity and as far as possible according to other significant characteristics of persons injured, of enterprises or establishments, of occupational injuries and of occupational accidents for which information is collected in accordance with paragraphs 9, 10 and 11. The classification used should be consistent with the most recent versions of the relevant international classifications, where these exist. Annexes A to G provide the most recent versions of the following international classifications:

- *International Standard Industrial Classification of All Economic Activities* (ISIC), Revision 3 (1990)
- Classification according to employment size of establishments, as in the *International Recommendations for Industrial Statistics,* Rev. 1 (1983)
- *International Standard Classification of Occupations, ISCO-88*
- *International Classification of Status in Employment, ICSE-93*
- Type of injury, from the *International Statistical Classification of Diseases and Related Health Problems, ICD-10 (*1992)
- Part of body injured, from the *International Statistical Classification of Diseases and Related Health Problems, ICD-10 (*1992)
- Place of occurrence, from the *International Statistical Classification of Diseases and Related Health Problems, ICD-10 (*1992).

29. For the other variables listed below, the ILO should develop and disseminate classification schemes to replace or supplement the existing schemes adopted by the Tenth International Conference of Labour Statisticians in 1962:

- type of location of accident;
- work process;
- specific activity;
- deviation from the normal;
- mode of injury;
- material item associated with the specific activity, the deviation or the injury;
- commuting accidents:
  - place of accident;
  - injured person's mode of transport;
  - injured person's transport role;
- mode of transport of counterpart.

Further action

30. The International Labour Office should prepare a manual to provide technical guidance on the contents of this resolution. It should also cooperate, as far as possible, with countries in the development of statistics of occupational injuries by providing technical assistance and training.

Annex A: Classification of economic activities

International Standard Industrial Classification
of All Economic Activities, Revision 3[1]
(tabulation categories and divisions)

Code	Designation
A	**Agriculture, hunting and forestry**
01	Agriculture, hunting and related service activities
02	Forestry, logging and related activities
B	**Fishing**
05	Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
C	**Mining and quarrying**
10	Mining of coal and lignite; extraction of peat
11	Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
12	Mining of uranium and thorium ores
13	Mining of metal ores
14	Other mining and quarrying
D	**Manufacturing**
15	Manufacture of food products and beverages
16	Manufacture of tobacco products
17	Manufacture of textiles
18	Manufacture of wearing apparel; dressing and dyeing of fur
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
21	Manufacture of paper and paper products
22	Publishing, printing and reproduction of recorded media
23	Manufacture of coke, refined petroleum products and nuclear fuel
24	Manufacture of chemicals and chemical products
25	Manufacture of rubber and plastics products
26	Manufacture of other non-metallic mineral products
27	Manufacture of basic metals
28	Manufacture of fabricated metal products, except machinery and equipment
29	Manufacture of machinery and equipment not elsewhere classified
30	Manufacture of office, accounting and computing machinery
31	Manufacture of electrical machinery and apparatus not elsewhere classified
32	Manufacture of radio, television and communications equipment and apparatus
33	Manufacture of medical, precision and optical instruments, watches and clocks
34	Manufacture of motor vehicles, trailers and semi-trailers

[1] For full details, see United Nations, Statistical Papers, Series M, No. 4, Rev. 3 (New York, UN doc. ST/ESA/STAT/SER.M/4/Rev. 3, 1990).

35 Manufacture of other transport equipment
36 Manufacture of furniture; manufacturing, not elsewhere classified
37 Recycling

E Electricity, gas and water supply

40 Electricity, gas, steam and hot-water supply
41 Collection, purification and distribution of water

F Construction

45 Construction

G Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods

50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods

H Hotels and restaurants

55 Hotels and restaurants

I Transport, storage and communications

60 Land transport; transport via pipelines
61 Water transport
62 Air transport
63 Supporting and auxiliary transport activities; activities of travel agencies
64 Post and telecommunications

J Financial intermediation

65 Financial intermediation, except insurance and pension funding
66 Insurance and pension funding, except compulsory social security
67 Activities auxiliary to financial intermediation

K Real estate, renting and business activities

70 Real estate activities
71 Renting of machinery and equipment without operator and of personal and household goods
72 Computer and related activities
73 Research and development
74 Other business activities

L Public administration and defence; compulsory social security

75 Public administration and defence; compulsory social security

M Education

80 Education

N Health and social work

85 Health and social work

O	**Other community, social and personal service activities**
90	Sewage and refuse disposal, sanitation and similar activities
91	Activities of membership organizations, not elsewhere classified
92	Recreational, cultural and sporting activities
93	Other service activities
P	**Private households with employed persons**
95	Private households with employed persons
Q	**Extra-territorial organizations and bodies**
99	Extra-territorial organizations and bodies

Annex B: Classification according to size of establishment

1983 World Programme of Industrial Statistics[1]

The following size classes, based on the average number of persons engaged in the establishment, are recommended for international comparisons. For national purposes, ranges should be established according to each country's circumstances and needs.

Code	Designation
A	1 to 4 persons engaged
B	5 to 9 persons engaged
C	10 to 19 persons engaged
D	20 to 49 persons engaged
E	50 to 99 persons engaged
F	100 to 199 persons engaged
G	200 to 499 persons engaged
H	500 to 999 persons engaged
I	1,000 or more persons engaged
Z	Size unknown

[1] For full details, see United Nations, Statistical Papers, Series M, No. 48, Rev. 1 (New York, UN doc. ST/ESA/STAT/SER.M/48/Rev. 1, 1983).

Annex C: Classification of occupations

International Standard Classification
of Occupations, ISCO-88 [1]
(major groups and sub-major groups)

Code	Designation
1	**Legislators, senior officials and managers**
11	Legislators and senior officials
12	Corporate managers [2]
13	General managers [3]
2	**Professionals**
21	Physical, mathematical and engineering science professionals
22	Life science and health professionals
23	Teaching professionals
24	Other professionals
3	**Technicians and associate professionals**
31	Physical and engineering science associate professionals
32	Life science and health associate professionals
33	Teaching associate professionals
34	Other associate professionals
4	**Clerks**
41	Office clerks
42	Customer services clerks
5	**Service workers and shop and market sales workers**
51	Personal and protective services workers
52	Models, salespersons and demonstrators
6	**Skilled agricultural and fishery workers**
61	Market-oriented skilled agricultural and fishery workers
62	Subsistence agricultural and fishery workers
7	**Craft and related trades workers**
71	Extraction and building trade workers
72	Metal, machinery and related trades workers
73	Precision, handicraft, printing and related trade workers
74	Other craft and related trades workers
8	**Plant and machine operators and assemblers**

[1] For full details, see ILO *International Standard Classification of Occupations* : ISCO-88 (Geneva, 1990).

[2] This sub-major group is intended to include persons who — as directors, chief executives or department managers — manage enterprises requiring a total of three or more managers.

[3] This sub-major group is intended to include persons who manage enterprises on their own behalf, or on behalf of the proprietor, with some non-managerial help and assistance of no more than one other manager.

81 Stationary plant and related operators
82 Machinery operators and assemblers
83 Drivers and mobile plant operators

9 Elementary occupations
91 Sales and services elementary occupations
92 Agricultural, fishery and related labourers
93 Labourers in mining, construction, manufacturing and transport

0 Armed forces
01 Armed forces

Annex D: Classification according to status in employment

International Classification of Status in Employment, ICSE-93[1]

Code	Designation
1	Employees:
	(a) employees with stable contracts
	(b) other employees
2	Employers
3	Own-account workers
4	Members of producers' cooperatives
5	Contributing family workers
6	Workers not classifiable by status

[1] For full details, see ILO, *Report of the Conference*, Fifteenth International Conference of Labour Statisticians (Geneva, 19-28 Jan. 1993),(Geneva, doc. ICLS/15/D.6(Rev. 1), 1993).

Annex E: Classification according to type of injury

The following classification is based on the International Statistical Classification of Diseases and Related Health Problems, ICD-10.[1] The most serious injury or disease sustained or suffered by the victim should be classified. Where several injuries have been incurred, the most serious one should be classified. The coding given below does not correspond to that given in ICD-10, due to differences in structure.

Code Designation

A Superficial injuries and open wounds

A.01 Superficial injuries (including abrasions, blisters (non-thermal), contusions, puncture wounds (without major open wounds), insect bites (non-venomous)

A.02 Open wounds (including cuts, lacerations, puncture wounds (with penetrating foreign body), animal bites)

B Fractures

B.01 Closed fractures

B.02 Open fractures

B.03 Other fractures (dislocated, displaced)

C Dislocations, sprains and strains

(Including avulsions, lacerations, sprains, strains, traumatic haemarthroses, ruptures, subluxations and tears of joints and ligaments)

C.01 Dislocations and subluxations

C.02 Sprains and strains

D Traumatic amputations

(Including traumatic enucleation of the eye)

E Concussion and internal injuries

(Including blast injuries, bruises, concussion, crushing, lacerations, traumatic haematoma, punctures, ruptures and tears of internal organs)

F Burns, corrosions, scalds and frostbite

F.01 Burns (thermal) (including from electrical heating appliances, electricity, flames, friction, hot air and hot gases, hot objects, lightning, radiation)

F.02 Chemical burns (corrosions)

F.03 Scalds

F.04 Frostbite

G Acute poisonings and infections

G.01 Acute poisonings (acute effects of the injection, ingestion, absorption or inhalation of toxic, corrosive or caustic substances; including toxic effects of contact with venomous animals)

G.02 Infections (including intestinal infectious diseases, specified zoonoses, protozoal diseases,

[1] For full details, see WHO *International Statistical Classification of Diseases and Related Health Problems, ICD-10* (Geneva, 1992).

viral diseases, mycoses)

H Other specified types of injury

H.01 Effects of radiation
H.02 Effects of heat and light
H.03 Hypothermia
H.04 Effects of air pressure and water pressure
H.05 Asphyxiation
H.06 Effects of maltreatment (including physical abuse, psychological abuse)
H.07 Effects of lightning (shock from lightning, struck by lightning not otherwise specified)
H.08 Drowning and non-fatal submersion
H.09 Effects of noise and vibration (including acute hearing loss)
H.10 Effects of electric current (electrocution, shock from electric current)
H.19 Other specified injuries

Z Type of injury, unspecified

Annex F: Classification according to the part of body injured

The following classification is based on the International Statistical Classification of Diseases and Related Health Problems, ICD-10.[1] The groups relating to multiple locations should be used only to classify cases where the victim suffers from several injuries to different parts of the body and no injury is obviously more severe than the others. In order to designate the side of the body injured, a further digit may be added to the code for the part of body injured, where relevant, as follows:

1: right side

2: left side

3: both sides

The coding given below does not correspond to that given in the ICD-10, due to differences in structure.

Code	Designation
A	**Head**
A.1	Scalp, skull, brain and cranial nerves and vessels
A.2	Ear(s)
A.3	Eye(s)
A.4	Tooth, teeth
A.5	Other specified parts of facial area
A.7	Head, multiple sites affected
A.8	Head, other specified parts not elsewhere classified
A.9	Head, unspecified
B	**Neck, including spine and vertebra in the neck**
B.1	Spine and vertebra
B.8	Neck, other specified parts not elsewhere classified
B.9	Neck, unspecified
C	**Back, including spine and vertebra in the back**
C.1	Spine and vertebra
C.8	Back, other specified parts not elsewhere classified
C.9	Back, unspecified
D	**Trunk and internal organs**
D.1	Rib cage (ribs including sternum and shoulder blades)
D.2	Other parts of thorax, including internal organs
D.3	Pelvic and abdominal area, including internal organs
D.4	External genitalia
D.7	Trunk, multiple sites affected
D.8	Trunk, other specified parts not elsewhere classified
D.9	Trunk and internal organs, unspecified

[1] For full details, see WHO *International Statistical Classification of Diseases and Related Health Problems, ICD-10* (Geneva, 1992).

E Upper extremities

E.1 Shoulder and shoulder joints
E.2 Arm, including elbow
E.3 Wrist
E.4 Hand
E.5 Thumb
E.6 Other finger(s)
E.7 Upper extremities, multiple sites affected
E.8 Upper extremities, other specified parts not elsewhere classified
E.9 Upper extremities, unspecified

F Lower extremities

F.1 Hip and hip joint
F.2 Leg, including knee
F.3 Ankle
F.4 Foot
F.5 Toe(s)
F.7 Lower extremities, multiple sites affected
F.8 Lower extremities, other specified parts not elsewhere classified
F.9 Lower extremities, unspecified

G Whole body and multiple sites

G.1 Systemic effect (for example, from poisoning or infection)
G.8 Multiple sites of the body affected

Y Other parts of body injured

Z Part of body injured, unspecified

Annex G: Classification of place of occurrence

The following classification is based on the International Statistical Classification of Diseases and Related Health Problems, ICD-10.[1]

Code **Designation**

A **Home**

(Apartment; boarding house; caravan (trailer) park, residential; farmhouse; home premises; house (residential); non-institutional place of residence; private areas (driveway to home, garage, garden to home, yard to home); swimming pool in private house or garden; etc.)

B **Residential institution**

Children's home; dormitory; home for the sick; hospice; military camp; nursing home; old peoples' home; orphanage; pensioners' home; prison; reform school; etc.)

C **School, other institution and public administrative area**

(Building, including adjacent grounds, used by the general public or by a particular group of the public; e.g. assembly hall, campus, church, cinema, clubhouse, college, courthouse, dance hall, day nursery, gallery, hospital, institute for higher education, kindergarten, library, movie house, museum, music hall, opera house, post office, public hall, school (private, public, state), theatre, university, youth centre)

D **Sports and athletic areas**

(Baseball field; basketball court; cricket ground; football field; golf course; gymnasium; hockey field; riding school; skating rink; squash court; stadium; swimming pool (public); tennis court; etc.)

E **Street and highway**

(Freeway; motorway; pavement; road; sidewalk; etc.)

F **Trade and service area**

(Airport; bank; cafe; casino; garage (commercial); gas/petrol/service station; hotel; market; office building; radio or television station; restaurant; shop and store (commercial); shopping mall; bus or railway station; supermarket; warehouse; etc.)

G **Industrial production and construction area**

(Building under construction; dockyard; dry dock; factory (building, premises); gasworks; industrial yard; mine; oil rig and other off-shore installations; pit (coal, gravel, sand); power station (coal, nuclear, oil); shipyard; tunnel under construction; workshop; etc.)

H **Farm**

(Farm buildings; farmland under cultivation; ranch; plantation; etc.)

I **Other specified places**

(Beach; desert; forest; hill; mountain; prairie; seashore; park (amusement, public); zoo; parking lot and parking place; military training ground; railway line; harbour; lake;

[1] For full details, see WHO *International Statistical Classification of Diseases and Related Health Problems, ICD-10* (Geneva, 1992).

marsh; pond or pool; river; sea; stream; swamp; water reservoir; etc.)

J Other places, unspecified

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Report III

tatistics of occupational injuries

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