

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Target 8.8: Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

Indicator 8.8.1: Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status

Institutional information

Organization(s):

ILO

Concepts and definitions

Definition:

The frequency rates of fatal and non-fatal occupational injuries provide information on the number of cases of fatal and non-fatal occupational injury per hours worked by the concerned population during the reference period. It is a measure of the risk of having a fatal or a non-fatal occupational injury based on the duration of exposure to adverse work-related factors.

The incidence rates of fatal and non-fatal occupational injuries provide information on the number of cases of fatal and non-fatal occupational injury per workers in the reference group during the reference period. It is a measure of the personal likelihood of the workers in the reference group of suffering from work-related injuries.

For the purposes of international reporting on the SDG indicators, incidence rates are used, even though the indicator title of 8.8.1 calls for the use of frequency rates, as common practices around the world and data availability favour incidence rates.

Rationale:

This indicator provides valuable information that could be used to formulate policies and programmes for the prevention of occupational injuries, diseases and deaths. It could also be used to monitor the implementation of these programmes and to signal particular areas of increasing risk such as a particular occupation, industry or location. Although the principal objective of this indicator is to provide information for prevention purposes, it may be used for a number of other purposes, such as to identify the occupations and economic activities with the highest risk of occupational injuries; 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; to inform employers, employers' organizations, workers and workers' organizations of the risks associated with their work and workplaces, so that they can take an active part in their own safety; to evaluate the effectiveness of preventive measures; to estimate the consequences of occupational injuries, particularly in terms of days lost or costs; and to provide a basis for policymaking aimed at encouraging employers, employers' organizations, workers and workers' organizations to introduce accident prevention measures.

Concepts:

Definitions of the main concepts presented below are derived from the Resolution concerning statistics of occupational injuries (resulting from occupational accidents), adopted by the 16th ICLS in 1998 (http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-by-international-conferences-of-labour-statisticians/WCMS_087528/lang--en/index.htm).

Occupational accident: an unexpected and unplanned occurrence, including acts of violence, arising out of or in connection with work which results in one or more workers incurring a personal injury, disease or death. Occupational accidents are to be considered travel, transport or road traffic accidents in which workers are injured and which arise out of or in the course of work; that is, while engaged in an economic activity, or at work, or carrying out the business of the employer.

Occupational injury: any personal injury, disease or death resulting from an occupational accident. An occupational injury is different from an occupational disease, which comes as a result of an exposure over a period of time to risk factors linked to the work activity. Diseases are included only in cases where the disease arose as a direct result of an accident. An occupational injury can be fatal or non-fatal (and non-fatal injuries could entail the loss of work days).

Fatal occupational injury: an occupational injury leading to death within one year of the day of the occupational accident.

Case of occupational injury: the case of one worker incurring one or more occupational injuries as a result of one occupational accident.

Workers in the reference group: workers in the reference group refer to the average number of workers in the particular group under consideration and who are covered by the source of the statistics on occupational injuries (for example, those of a specific sex or in a specific economic activity, occupation, region, age group, or any combination of these, or those covered by a particular insurance scheme, accident notification systems, or household or establishment survey).

Comments and limitations:

There may be problems of under reporting of occupational injuries, and proper systems should be put in place to ensure the best reporting and data quality. Under reporting is thought to be present in countries at all levels of development, but may be particularly problematic in some developing countries. Data users should be aware of this issue when analysing the data.

Double-counting of cases of occupational injury may also happen in cases where data from several registries (records kept by different agencies, for example) are consolidated to have more comprehensive statistics.

Because data quality issues may be present, it may be more relevant to analyse indicator trends rather than levels. When measured over a period of time, the data can reveal progress or deterioration in occupational safety and health, and thus point to the effectiveness of prevention measures. This indicator is volatile and strong annual fluctuations may occur due to unexpected but significant accidents or national calamities. The underlying trend should therefore be analysed.

Methodology

Computation Method:

The frequency and incidence rates of fatal and non-fatal occupational injuries will be calculated separately, since statistics on fatal injuries tend to come from a different source than those on non-fatal injuries, which would make their sum into total occupational accidents inaccurate.

The fatal occupational injury frequency rate is expressed per 1'000'000 hours worked by the workers in the reference group. Thus, it is calculated as follows:

$$\begin{aligned} & \text{Fatal occupational injury frequency rate} \\ &= \frac{\text{New cases of fatal injury during the reference year}}{\text{total number of hours worked by workers in the reference group during the reference year}} \\ & \times 1'000'000 \end{aligned}$$

Similarly, the non-fatal occupational injury frequency rate is calculated as follows:

$$\begin{aligned} & \text{Non fatal occupational injury frequency rate} \\ &= \frac{\text{New cases of non fatal injury during the reference year}}{\text{total number of hours worked by workers in the reference group during the reference year}} \\ & \times 1'000'000 \end{aligned}$$

Ideally, the denominator should be the number of hours actually worked by workers in the reference group. When this is not possible, the denominator can 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.

If the data needed to calculate frequency rates is not available, incidence rates may be calculated instead. Indeed, incidence rates are used for the purposes of international reporting on this indicator rather than frequency rates.

The fatal occupational injury incidence rate is expressed per 100'000 workers in the reference group, and thus, is calculated as follows:

$$\begin{aligned} & \text{Fatal occupational injury incidence rate} \\ &= \frac{\text{New cases of fatal injury during the reference year}}{\text{Workers in the reference group during the reference year}} \times 100'000 \end{aligned}$$

Similarly, the non-fatal occupational injury incidence rate is calculated as follows:

$$\begin{aligned} & \text{Non fatal occupational injury incidence rate} \\ &= \frac{\text{New cases of non fatal injury during the reference year}}{\text{Workers in the reference group during the reference year}} \times 100'000 \end{aligned}$$

In calculating the average number of workers, the number of part-time workers should be converted to full-time equivalents. For the calculation of rates, the numerator and the denominator should have the same coverage. For example, if self-employed persons are not covered by the source of statistics on fatal occupational injuries, they should also be taken out of the denominator.

Disaggregation:

This indicator should be disaggregated by both sex and migrant status.

Wherever possible, it would also be useful to have information disaggregated by economic activity and occupation.

Treatment of missing values:

- At country level
- At regional and global levels

Regional aggregates:

Sources of discrepancies:

Methods and guidance available to countries for the compilation of the data at the national level:

This indicator could come from a variety of sources at the national level, including various kinds of administrative records (insurance records, labour inspection records, etc.), household surveys and establishment surveys.

- ILO Manual – Decent Work Indicators, Concepts and Definitions – Chapter 8, Safe work environment http://www.ilo.org/integration/resources/pubs/WCMS_229374/lang--en/index.htm (second version, page 156)
- Resolution concerning statistics of occupational injuries (resulting from occupational accidents) http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutionsadopted-by-international-conferences-of-labour-statisticians/WCMS_087528/lang--en/index.htm
- Global database on occupational safety and health legislation - LEGOSH http://www.ilo.org/safework/info/publications/WCMS_217849/lang--en/index.htm
- Occupational injuries statistics from household surveys and establishment surveys http://www.ilo.org/stat/Publications/WCMS_173153/lang--en/index.htm
- ILOSTAT (www.ilo.org/ilostat)
- ILOSTAT Metadata – Indicator descriptions (http://www.ilo.org/ilostat-files/Documents/description_INJ_EN.pdf)

Quality assurance

Data consistency and quality checks regularly conducted for validation of the data before dissemination in the ILOSTAT database.

Data reported to the ILO Department of Statistics through its annual questionnaire on labour statistics, by national statistical offices or other relevant national agencies, or compiled from official national, regional or international publications.

Data Sources

Description:

The recommended data sources are different types of administrative records, such as records of national systems for the notification of occupational injuries (labour inspection records and annual reports; insurance and compensation records, death registers), supplemented by household surveys (especially in order to cover informal sector enterprises and the self-employed) and/or establishment surveys.

The metadata should clearly specify (i) whether the statistics relate to cases of occupational injury which have been reported (to an accident notification system or to an accident compensation scheme), compensated (by an accident insurance scheme) or identified in some other way (for example through a survey of households or establishments) and (ii) whether cases of occupational disease and cases of injury due to commuting accidents are excluded from the statistics, as recommended.

Collection process:

The ILO Department of Statistics sends out its annual questionnaire on labour statistics to all relevant agencies within each country (national statistical office, labour ministry, etc.) requesting the latest annual data available and any revisions on numerous labour market topics and indicators, including many SDG indicators. Indicator 8.8.1 is calculated from statistics mainly submitted to the ILO Department of Statistics via this questionnaire.

Data Availability

Description:

Time series:

Calendar

Data collection:

The ILO Department of Statistics sends out its annual questionnaire on labour statistics usually in the 2nd quarter, with a view to receiving the requested statistics by the 3rd quarter or the end of the year at the latest.

Data release:

The ILO Department of Statistics' online database ILOSTAT is continuously updated to reflect statistics compiled and processed every week.

Data providers

Labour Ministries, Labour Inspection, National Insurances, and/or National Statistical Offices

Data compilers

ILO

References

- ILOSTAT database: www.ilo.org/ilostat
- ILOSTAT Metadata – Indicator Descriptions (http://www.ilo.org/ilostat-files/Documents/description_INJ_EN.pdf)
- Decent Work Indicators Manual: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_223121.pdf
- Resolution concerning statistics of occupational injuries (resulting from occupational accidents) adopted by the 16th ICLS in 1998: http://www.ilo.org/global/statistics-and-databases/standards-and-guidelines/resolutions-adopted-byinternational-conferences-of-labour-statisticians/WCMS_087528/lang--en/index.htm
- Decent Work and the Sustainable Development Goals: A Guidebook on SDG Labour Market Indicators (ILO, forthcoming)

Related indicators
