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|-------------------------|---|
| <b>Reference</b>        | PAC 10/4/1  |
| <b>Title</b>            | Injury at work – a hidden tragedy   |
| <b>Submitted by</b>     | OSH TG Chair  |
| <b>Summary / Note</b>   | <p>As a part of the implementation of the NDPHS “Health at Work Strategy” the TG OSH has preliminary reviewed the reliability of the reporting of occupational accidents in the NDPHS Member States. Occupational accident statistics are frequently used to monitor the state of working conditions. However, it can be noted that some countries have severe underreporting. This document summarises the present situation and the Annexes are providing more details, intended to raise awareness of the problem. This is a part of a project to develop a comparative report (state of play), a survey of the reporting systems and related problems and a parallel in-depth study to occupational injuries compiled from hospitals.</p> <p>The time table for the preparation of the Injury at work – a hidden tragedy has been as follows:</p> <p>14.6 the first draft in a TG OSH core group review<br/>30.6 draft sent for a TG OSH full review - deadline 19 August<br/>4.9 first discussion in EG Chairs and ITAs meeting<br/>16-17.10 inclusion in the PAC agenda and review by CSR<br/>22 Nov final draft presented for PAC adoption</p> |
| <b>Requested action</b> | For decision  |

## Injury at work – a hidden tragedy

In a time of economic crisis countries look for ways and means to lower expenses. Important investments are compared to decide where to cut. Morally it is unacceptable to cut resources for safety and health – it is a question of life and death, injuries of human being and a question of basic human rights.

However, statistics and calculation of efficiency are used to argue for cuts in safety and health. This raises the question; do we have accurate statistics on accidents at work?

The assessment of the International Labour Organisation ILO notes that there is severe underreporting of accidents at work. The ILO assessment indicates that only a fraction of work related accidents are registered in some countries. The ILO assessment for the NDPHS countries is presented in Annex Z. The comparison of the ratio between fatal accidents (which seldom go unnoticed) and other accidents indicates also a severe degree of underreporting. Concerns of underreporting come also from the EU-OSHA and the WHO.

The NDPHS TG OSH has done a preliminary comparison of the Member States (Annex zz), which indicates that the countries can be grouped in three categories in relation to underreporting (the extent to which the notification/recording of accidents reflects the actual situation).

| Group | Recording system  | NDPHS member states                            |
|-------|---|--|
| A     | Accidents recorded through a compensation system, high recording level  | Finland, Germany                               |
| B     | Accident recording not based on compensation system, medium recording level   | Denmark, Norway, Sweden                        |
| C     | Former CIS countries and Eastern European countries show a remarkable lower ratio of fatal/all accidents, low recording level | Estonia, Latvia, Lithuania, Russian Federation |

Note Based on ILO Yearbook of Statistics. Poland excluded due to lack of data

Accident statistics are generally used to target investment to improve working conditions and human resources in inspection and are thus important for the efficient planning and management of Government occupational safety and health (OSH) resources and labour inspection.

These statistics are further used by non-health experts in allocating funding and human resources on the national budgeting level. Low official accidents rates are generally leading to neglect and/or cuts in resources for occupational safety and health.

The TG OSH, in collaboration with BSN, presents for PAC consideration the following conclusions:

Taking into account the WHO Workers' Health: Global Plan of action, specifically Objective 4: to provide and communicate evidence for action and practice (create registries and improve reporting of occupational accidents).

Taking into account the ILO Promotional Framework for Occupational Safety and health Convention 187 and the ILO specific Protocol P155 to the Occupational Safety and Health Convention 155 concerning systems for recording and notification of occupational accidents.

**The PAC underlines that**

- Underreporting of occupational accidents constitutes a challenge for the awareness of the scope of the problem of poor working conditions,
- Low safety and health awareness leads to increased human suffering as the necessary resources and attention are not channelled to the problem at enterprise and governmental levels,
- The necessary funding and resources for OSH research, policy development, training and information, occupational health services and inspection activities are withheld or decreased,

**The PAC emphasises the need for actions from the Member States (MS)**

- MS should review the coverage and efficiency of their recording systems of occupational accidents with a view to provide realistic data for planning and management of OSH prevention policies
- MS should ratify the ILO Promotional Framework for Occupational Safety and health Convention 187. They should apply the ILO Protocol to Conventions 155 related to systems for notification and recording of accidents (TG OSH can provide support by advice and consultations)

**The PAC affirms**

the need for TG OSH – in collaboration with BSN – to elaborate on the recording and notification systems of occupational accidents in the NDPHS Member States, with the objective to present improved methods for recording and prevention of occupational accidents and report back in connection with the next PAC meeting. The occupational health services may provide a collaborative partner in raising awareness and advising on prevention of occupational accidents.

Finally, the PAC calls attention to the fact that human life and health at work need to be protected by efficient occupational safety and health systems. Safety and health at work improves competitiveness and productivity, while maintaining a motivated work force in line with the EUROPE 2020 strategy for smart, sustainable and inclusive growth.

**Annexes**

Annex Z ILO estimate of work-related occupational accidents

Annex ZZ NOTES ON WORK-INJURY RATES IN EUROPE AS PROVIDED BY NATIONAL AUTHORITIES TO THE ILO YEARBOOK OF LABOUR STATISTICS – DRAFT COMPILATION (not finalised)

## Annex Z:

### ILO estimate of occupational accidents compared to reported accidents

| Occupational accidents in the NDPHS countries |                    |  |                         |  |   |
|---|--------------------|--|-------------------------|--|---|
| Year 2008                                     |                    | Occupational accidents reported to ILO |                         | Estimated fatal occupational accidents | Estimated occupational accidents causing at least 4 days' absence |
| Country                                       | Total employment   | Fatal                                  | at least 4 days absence | Total                                  | Average <sup>1</sup>  |
| Denmark                                       | 2 827 400          |  |                         | 67                                     | 69 519  |
| Estonia                                       | 656 500            | 21                                     | 4 038                   | 22                                     | 42 417  |
| Finland                                       | 2 553 000          |  |                         | 41                                     | 42 708  |
| Germany                                       | 38 734 000         | 765                                    | 1 063 150               | 765                                    | 796 875   |
| Iceland                                       | 178 600            |  |                         | 5                                      | 4 860   |
| Latvia  | 1 124 100          | 40                                     | 1 699                   | 41                                     | 90 440  |
| Lithuania                                     | 1 520 000          | 77                                     | 3 218                   | 79                                     | 129 876   |
| Norway  | 2 524 000          | 51                                     | 16 630                  | 53                                     | 55 208  |
| Poland  | 15 800 000         | 520                                    | 97 392                  | 536                                    | 1 432 665   |
| Russia  | 70 965 000         | 2 550                                  | 55 760                  | 5 520                                  | 5 749 865   |
| Sweden  | 4 593 000          | 68                                     | 28 327                  | 70                                     | 72 917  |
| <i>Total</i>                                  | <i>141 475 600</i> | <i>4 092</i>                           | <i>1 270 214</i>        | <i>7 199</i>                           | <i>8 487 350</i>  |

#### References

Data received directly from author Dr Jukka Takala, published in several publications, among others:

International Labour Organisation. XIX World Congress on Safety and Health at Work: Istanbul Turkey, 11-15 September 2011.

[http://www.ilo.org/wcmsp5/groups/public/@ed\\_protect/@protrav/@safework/documents/publication/wcms\\_162662.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/publication/wcms_162662.pdf)

WHO references, see Quantifying environmental health impacts –Global estimates of burden of disease caused by environmental and occupational risks, [http://www.who.int/quantifying\\_ehimpacts/global/en/](http://www.who.int/quantifying_ehimpacts/global/en/)

Workers' health: Global plan of action,

[http://www.who.int/occupational\\_health/publications/global\\_plan/en/](http://www.who.int/occupational_health/publications/global_plan/en/)

<sup>1</sup> The average of the 5<sup>th</sup> and 95<sup>th</sup> percentile of the estimate. For details see the referenced publication and other articles by Dr. Takala.

## NOTES ON WORK-INJURY RATES IN EUROPE AS PROVIDED BY NATIONAL AUTHORITIES TO THE ILO YEARBOOK OF LABOUR STATISTICS – DRAFT COMPILATION (not for publication<sup>2</sup>)

### National reporting levels

The reporting levels of accidents at work with more than 3 days' absence are in some countries or sectors lower than 100%. The table below shows the differences in reporting levels for the national ESAW 1998 data. For the mainly insurance based systems the reporting level is considered to be very close to 100%, i.e., all accidents to persons covered by the statistics are considered to be reported.

For the reporting systems which are mainly based on a legal obligation to notify, only a part of the accidents is reported. In this case estimates of the reporting levels are provided by the Member States, based either on an evaluation of the reporting procedures or on the basis of other data sources, e.g., surveys. In the table below only the mean value for the main sectors is provided for each of those Member States which have not 100% reporting.

**TABLE 9 - ESAW 1998 data: National reporting levels for accidents at work with more than 3 days' absence from work**

|  | B | DK | D | EL | E | F | IRL | I                | L | NL               | A                | P | FIN | S  | UK | NO               |
|--|---|----|---|----|---|---|-----|------------------|---|------------------|------------------|---|-----|----|----|------------------|
| 100% reporting level for all sectors   | Y | N  | Y | N  | Y | Y | N   | P <sup>(1)</sup> | Y | N <sup>(2)</sup> | Y <sup>(3)</sup> | Y | Y   | N  | N  | N <sup>(4)</sup> |
| Average reporting levels for those countries which have not 100 percent reporting <sup>(5)</sup> : |   | 46 |   | 39 |   |   | 38  |                  |   | <sup>(2)</sup>   |                  |   |     | 52 | 43 | <sup>(4)</sup>   |

<sup>(1)</sup> I: The reporting level is less than 100 % only for the craft professions.

<sup>(2)</sup> NL: Data on non-fatal accidents available only for 1994 reference year.

<sup>(3)</sup> A: Except agriculture for which the reporting level is less than 30%.

<sup>(4)</sup> NO: between 25 to 100%.

<sup>(5)</sup> The reporting level for each sector is provided to Eurostat on the basis of national evaluations. The level presented in the current table is the average on the 9 main branches.

Legend: Y = Yes; N = No; P = Partly.

In the Member States having a non-insurance based system, the reporting levels are lower than 100%. These Member States carry out national evaluations in general based on recognised methods such as Labour Force Surveys or other surveys providing information on accidents at work. Nevertheless, difficulties and important bias remain. (ESAW 2001)

Table 1 clusters the Western European countries into two groups according to national reporting levels for accidents at work with more than 3 days' absence from work according to ESAW data.

The countries with an insurance-based notification system (nearly 100% reporting) include Austria, Finland, France, Germany, Greece (sic!, 39% reporting level), Italy, Portugal, Spain and Switzerland.

<sup>2</sup> These are preliminary notes to support the statement and have not been finalised. Details are still subject to discussion and will be finalised in a project presented for funding by TG OSH.

The Western European countries in which the reporting system is mainly based on a legal obligation to notify include Denmark, Ireland, the Netherlands, Norway, Sweden, and the U.K. In these countries only a part of the accidents is reported.

Table 1. Statistics from countries as reported to the ILO Yearbook of Labour Statistics 2008. (67th issue. International Labour Organization. Geneva 2008.) The rates are on years 2005-2007. The ratios are calculated from the data in the ILO Yearbook.

| "Western Europe"                                     | Rate of fatal injuries (all industries) per 100,000 | Rate of non-fatal injuries with >3 lost work days (all industries) per 100,000 | Ratio of non-fatal to fatal injuries (all industries) | Notes   |
|--|---|--|---|---|
| Insurance-based system, reporting level nearly 100%: |   |  |   | <p>The countries with an insurance-based notification system (high level of reporting) are thought to provide a more reliable reference for the true rates of non-fatal work injuries than the statistics from the non-insurance-based countries where the reporting level is known to be lower (low level of reporting /ESAW 2001).</p> <p>In the countries with insurance-based reporting system the rate of non-fatal work injuries (&gt;3 days' absence from work) in all industries typically is about 2,000 - 3,000 per 100,000 employed.</p> <p>In the countries with insurance-based system the ratio of fatal to non-fatal injury in all industries was about 1 to 1,200-1,300</p> |
| Austria  | 3.9   | 3925   | 1006  |   |
| Belgium  | -   | -  |   |   |
| Finland  | 2.2   | 2892   | 1315  |   |
| France   | 3.0   | 3940   | 1313  |   |
| Germany  | 2.4   | 2835   | 1181  |   |
| Greece (39%)   | 5.4   | 772  | 143   |   |
| Italy  | 5   | 2693   | 539   |   |
| Portugal   | 11.7  | 5354   | 458   |   |
| Spain  | 3.8   | 5815   | 1530  |   |
| Switzerland  | 1.4   | 2349   | 1678  |   |
| Non-insurance based system, reporting level low:     |   |  |   | <p>In the countries with non-insurance-based reporting system the rate of non-fatal work injuries in all industries is about 800 per 100,000 employed.</p> <p>In countries with non-insurance-based system the ratio of fatal to non-fatal injury was 1 to 500-600</p>  |
| Denmark (46%)  | 2.0   | 1574   | 787   |   |
| Ireland (30%)  | 3.5   | -  |   |   |
| Netherlands (-)                                      | 1.7   | -  |   |   |
| Norway (25-100%)                                     | 1.6   | 781  | 488   |   |
| Sweden (52%)   | 1.6   | 751  | 469   |   |
| U.K. (43%)   | 0.6   | 562  | 937   |   |

a) Ireland and U.K. do not provide data on road traffic and transport accidents in the course of work.

Reporting level statistics: European Statistics on Accidents at Work (ESAW): methodology. Office of Official Publications of the European Communities. Luxembourg, 2001; 209 p.

Table 2 covers the Eastern European countries that were not included in the estimation of national reporting levels of work injuries in the ESAW survey (ESAW 2001).

Table 2. Statistics from countries include the figures reported to the ILO Yearbook of Labour Statistics 2008. (67th issue. International Labour Organization. Geneva 2008.) The rates mostly are on years 2005-2007. The ratios are calculated from the data in the ILO Yearbook.

| "Eastern Europe"   | Rate of fatal injuries (all industries) per 100,000 | Rate of non-fatal injuries (all industries) per 100,000 | Ratio of non-fatal to fatal injuries (all industries) | Notes   |
|--------------------|---|---|---|---|
| Belarus            | 5.4   | 155   | 29  | The rates of fatal injuries in Eastern Europe are remarkably higher than those of Western Europe.<br><br>In Eastern Europe the registered rate of non-fatal work injury is much lower than in the Western Europe, in some Eastern countries very much lower. (Probably severe underreporting in Eastern European countries.)<br><br>The ratio of fatal to non-fatal injury was much lower than in Western Europe.<br><br>It is more common to leave non-fatal than fatal work injuries unnotified and unregistered. Hence a ratio of fatal to non-fatal work injuries is an indicator of notification reliability of non-fatal work injuries. |
| Bulgaria           | 7.2   | 1671  | 232   |   |
| Croatia            | 4.7   | 1540  | 328   |   |
| Czech Republic     | 4.1   | 1680  | 410   |   |
| Estonia            | 3.2   | 757   | 237   |   |
| Hungary            | 3.0   | 530   | 177   |   |
| Latvia             | 6.9   | 151   | 22  |   |
| Lithuania          | 9.6   | 295   | 31  |   |
| Moldova            | 7.1   | 71  | 10  |   |
| Poland             | 4.3   | -   | -   |   |
| Romania            | 6   | 70  | 12  |   |
| Russian Federation | 12.4  | 262   | 21  |   |
| Slovakia           | 4   | 648   | 162   |   |
| Slovenia           | 3.8   | 4437  | 1168  |   |
| Ukraine            | 9.3   | 155   | 17  |   |

## Role of the insurance system on reporting activity

To compare work safety trends at European level requires availability of comparable data on work injuries and on occupational diseases. This requires that the statistics on work injuries are recorded and processed in similar and compatible ways. However great differences exist between European countries in this respect.

All European countries have built surveillance systems to monitor the occurrence and trends of key outcome indicators of OSH. However, official statistics on work injuries are in many countries recognized as being of limited quality and restricted to workers having formal job contracts.

The reporting level of work injuries in a country, the propensity to report, depends strongly on the system that governs the compensation of such events.

A system can be insurance-based or a non- insurance-based system of universal social security coverage.

In insurance-based systems, the provision or refunding of care benefits and the payment of benefits in cash (daily subsistence allowances, etc.) resulting from accidents at work are conditional on reporting the accident to the public or private insurer. Additionally, the benefits paid under the work insurance

legislation are higher than in the case of non-occupational accidents. Insurance-based systems thus provide an economic incentive for the employer and the employee to notify accidents at work. (European Commission 2009). As a consequence, the work injuries are effectively registered.

In many Western countries the reporting procedures rely on insurance-based systems: Finland, France, Germany, Italy, Portugal, Spain, Switzerland. In these insurance-based countries (economical incentives to notify), the reporting level is very high - close to 100% according to EUROSTAT (see ESAW 2001), though this may be too optimistic an opinion. (In this group of insurance-based countries Greece is an outlier with a reporting level of low 36%.)

Other Western European countries have a system of universal social security coverage (non-insurance-based) and the registration relies on notification of the injuries to national authorities. In these countries the economic incentives for notifying and the reporting levels are rather low: Denmark 46%, Ireland 30%, Norway 25-100%, Sweden 52%, the U.K. 43% (see ESAW 2001). Consequently, much lower rates of work injuries are reported in comparison to the countries with insurance-based system.

The Western European countries can thus be technically grouped according to whether the reporting relies on an insurance-based system (economical incentives to notify) or non-insurance based system (less economical interest to notify). These two categories of Western countries show different rates of work injuries at a group level.

In the new EU Member States of the Eastern Europe (2004 and 2007 enlargements) reporting systems are mainly based on data provided by labour inspection, with complementary information provided by Social Security systems. It appears that underreporting is a severe problem in most of these countries.

## **Fatal work injuries and non-fatal work injuries - differences of registered rates in Europe**

### Fatal work injury rates - all industries:

A fatal work injury is an extreme and relatively rare occurrence. It is not merely a chance event, but its probability is related to the nature and intensity of the risks in work life. Hence there are large differences in the rates of fatal work injury between industries.

A fatal work injury is an event that cannot remain unnoticed. It typically leads to a thorough investigation and is registered. Therefore the fatal work injuries are usually considered the most reliable hard indicators of the quality of occupational health and safety system. However, even the reporting of fatal work injuries and the calculated rates of fatal work injuries are not always reliable.

The rates of fatal work injury are more comparable between countries than other indicators.

### Western Europe (see Table 1.):

In the Western European countries with insurance-based systems (reporting level nearly 100% according to EUROSTAT) the rates of fatal work injury typically are between 2 and 4 per 100,000 (Austria 3.9, Finland 2.2, France 3.0, Germany 2.4, Greece 5.4, Italy 5.0, Portugal 11.7 (sic!), Spain 3.8, Switzerland 1.4).

In the Western European countries with non-insurance-based reporting system (reporting level lower than in countries with insurance-based systems) the registered rate of fatal work injury typically is below 2 per 100,000 (Denmark 2.0, Ireland 3.5, the Netherlands 1.7, Norway 1.6, Sweden 1.6, the U.K. 0.6).



### Eastern Europe (see Table 2.):

In the Eastern European countries the rate of fatal work injuries typically is more than 4 per 100,000 (Belarus 5.4, Bulgaria 7.2, Croatia 4.7, Czech Republic 4.1, Estonia 3.2, Hungary 3.0, Latvia 6.9, Lithuania 9.6, Moldova 7.1, Poland 4.3, Romania 6.0, Russia 12.4, Slovakia 4.0, Slovenia 3.8, Ukraine 9.3).

The rates in the Eastern Europe thus are remarkably higher than those of the Western Europe.

### Non-fatal work injury rates - all industries:

#### Western Europe (see Table 1.):

In the Western European countries with insurance-based reporting system the rate of non-fatal work injuries (>3 days' absence from work) in all industries typically is about 3,000 per 100,000 employed: Austria 3925, Finland 2892, France 3940, Germany 2835, Greece 772 (sic!), Italy 2693, Portugal 5354, Spain 5815, Switzerland 2349.

In the Western European countries with non-insurance-based reporting system the rate of non-fatal work injuries in all industries is about 800 per 100,000 employed: Denmark 1574, Ireland -, the Netherlands -, Norway 781, Sweden 751, the U.K. 562.

As mentioned earlier, the countries with an insurance-based notification system (high level of reporting) most probably provide a more reliable reference for the true rates of non-fatal work injuries than the statistics from the non-insurance-based countries where the reporting level is known to be lower (low level of reporting /ESAW 2001).

#### Eastern Europe (see Table 2.):

The registered rate of non-fatal work injury for all industries in Belarus is 155 per 100,000 employed, Bulgaria 1671, Czech Republic 1680, Estonia 757, Hungary 530, Latvia 151, Moldova 71, Romania 70, Russia 262, Slovakia 648, Slovenia 4437 (sic!), Ukraine 155.

Hence in Eastern European countries the registered rate of non-fatal work injury for all industries typically is lower than in the Western Europe, in some Eastern countries very much lower. The reason is severe underreporting in many Eastern European countries. The rate in Slovenia is on par the Western Europe.

## **Correlation between fatal and non-fatal work injuries - differences between Western and Eastern Europe**

### Western Europe (see Table 1):

It is more common to leave non-fatal than fatal work injuries unnotified and unregistered. Hence a ratio of non-fatal work injuries to fatal injuries is an indicator of notification reliability of non-fatal work injuries.

In the Western European countries with insurance-based system the relationship between a fatal work injury and a non-fatal one in all industries was about 1 to 1,200-1,300 (Austria 1006, Finland 1315, France 1313, Germany 1181, Greece 143 (sic!), Italy 439, Portugal 458, Spain 1530, Switzerland 1678). This ratio between a fatal work injury and a non-fatal one in all industries for countries with an insurance-based

system should be considered more reliable than other such ratios because of higher reporting levels due to incentives to notify.

In Western European countries with non-insurance-based system the same ratio was 1 to 500-600 (Denmark 787, Norway 488, Sweden 469, the U.K. 937) which is less than one half of the ratio in insurance-based countries. The results are in line with a view that non-fatal work injuries are more often underreported in countries with non-insurance-based reporting system, i.e., without incentives to report.

### Eastern Europe (Table 2):

In the Eastern Europe, the ratio of fatal to non-fatal injuries in all industries was roughly 1 to 100 - 150 with a wide variation between countries (range 12 - 410, excluding Slovenia 1168). This is merely about 10 % of the ratio in the Western European countries with insurance-based systems most plausibly reflecting severe underreporting of non-fatal injuries. For the Russian Federation the ratio of fatal to non-fatal injuries was only 21 (very low).

It appears that in some countries less than 10% of the actually occurring non-fatal work injuries will be registered.

## **References**

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