

Estimating the costs of accidents and ill-health at work at European level

Investing in Occupational Safety and Health –
How benefits beat the costs

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- 1. Background**
- 2. EU-OSHA project**
- 3. Two steps to the estimation of costs:**
 - a) Number of cases
 - b) Application of monetary values – estimation of costs
- 4. Conclusions and steps ahead**

1. Background: extent of the issue

- ILO estimates (2008): 2.3 million people died from work related injury or illness.
- Eurostat (2007): 5,580 fatal accidents at work , 23 million people had health problem caused or made worse by work (EU-27).
- A **health and safety work environment** – desirable not only for workers →
- Good OSH increases **productivity** and competitiveness by:
 - reducing costs from work related accidents and ill-health;
 - enhancing worker motivation;
 - relieving pressure on public and private social protection and insurance systems.

1. Background: diversity of estimates

- ILO: 4% of the world's annual GDP is lost as a consequence of occupational diseases and accidents = € 490 billion for EU27
- EU-OSHA (1997): range from 2.6% to 3.8% of GDP –variety of cost factors included.

Country	Estimate % share GDP	Year
Netherlands	3.0	2004
Finland	2.0	2000
Spain	1.7	2004
United Kingdom	1.0	2010
Slovenia	3.5	2000
Australia	4.8	2009
New Zealand	3.4	2006
Germany	3.1	2011
Austria	2.7	2008

2. Estimating the costs of accidents and ill-health at work – a review of methodologies

■ Aim:

- Provide policy makers with relevant information on the economic impact of poor or non-OSH at macro level.
- Highlight contribution of OSH to improving productivity and competitiveness.
- Raise awareness about the costs of non-OSH among policy makers outside the field of OSH.

■ Content:

- Report – policy-oriented review of methodologies that quantify the economic impact of work-related accidents and ill-health
- Executive summary for policy makers: translated into eight languages.
- Expert meeting: consolidate report and steps ahead

2. Estimating the costs of accidents and ill-health at work – a review of methodologies

- **Contractor: TNO and Matrix / published on 12 May 2014**
- **Selection criteria of models for full review (two of three):**
 - cover several industries /one of the main industries when it comes to OSH (e.g. construction);
 - not focused on a specific type of injury/illness;
 - relating to one of the EU Member States.

Studies
Ayres et al. (2011)
Béjean and Sultan-Taïeb (2005)
Biddle (2004)
Boonen et al. (2002)
HSE (2011)
Koningsveld et al. (2003)
Leigh et al. (2001)
Rikhardsson (2004)
Romero (2010)
Safe Work Australia (2012)

3. Estimation of the cost of accidents and ill-health at work

Two key steps required to provide a quantitative estimate of the cost of occupational injuries and illnesses:

1. the identification of the number of cases and
2. the application of monetary values to the identified cases.

3a) Identification of the number of cases

Most studies drew on existing literature, surveys and statistics – typically labour force surveys, compensation statistics:

- In some studies, survey data was directly used to establish the number of cases.
- ‘Population Attributable Risk’ method.
- Incidence vs. prevalence:
 - Incidence: estimating new cases in a given year (and then calculating all future costs for those cases);
 - Prevalence: estimating all cases in a given year.

3a) Identification of the number of cases

Significant potential for underestimation

- Long-latency disease - cause may be difficult to establish.
- Small-scale incidents/cases that do not result in a long absence from work (or may not be reported at all).
- Use of expert opinion
- Recommended - further research on narrowing down the extent of underestimation and statistically accounting for.

3b) Application of monetary values – Estimation of costs

Costs were categorized into five main types:

- Productivity costs: costs related to loss of output or production.
- Health care costs: medical costs, including both direct (e.g. pharmaceuticals) or indirect (e.g. caregiver time).
- Quality of life losses: monetary valuation of the loss of quality of life, such as physical pain and suffering.
- Administration costs: costs of administration, for example, applying for social security payments or reporting on a workplace accident.
- Insurance costs: costs regarding insurance, such as compensation payments and insurance premiums.

3b) Application of monetary values – Estimation of costs

Costs to four stakeholders:

- Workers and family: the affected individual and close family or friends who are impacted by the injury or illness.
- Employers: the company or organisation that the affected individual works for.
- Government: the relevant public authority regarding, for example, social security payments.
- Society: all stakeholders – the effect on society is the overall impact of an injury or illness, excluding transfers between stakeholders (which cancel out).

4. Conclusions and steps ahead

- The best approach for an EU-wide calculation of costs would probably be an aggregation of national studies, with relevant structural differences highlighted.
- Use of standardised method, e.g. following HSE or Safe Work Australia.
- Include all stakeholders and as many cost categories as possible –quality of life often not included.
- Who bears the cost? Economic incentives to align preferences of employers with those of society
- Underreporting – try and assess it in sensitivity analysis (expert opinion)

4. Conclusions and steps ahead

- Expert meeting on 19 June 2014
 - Discuss report
 - EU estimate?
 - Factors for EU-OSHA to take into account: limitations, challenges, opportunities,..
 - Methodological approach
- Osh Overview 2015-2017 'Benefits of OSH': EU estimate of the costs of accidents and ill-health at work.

Thank you!

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