

Reliable Occupational Accident Registration – Indicator for Prevention

The Realocc Accidents Project 2013-2015

SUMMARY OF THE SURVEY



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– Indicator for Prevention

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Compiled by:
Anne Marie Lund Eikrem,
Norwegian Labour Inspection Authority
Yogindra Samant,
Norwegian Labour Inspection Authority

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Summary

Project “Reliable occupational accident registration - indicator for prevention” (“The Realocc Accidents project”) is a pilot project supported by seed money facility of EU Strategy for the Baltic Sea Region (BSR). The aim is to provide sufficient background information on existing situation regarding occupational accidents at workplaces and to develop a larger scale project in Baltic Sea Region (with potential to expand across other EU regions).

The potential larger project's objective is to develop a reliable reporting and registration system for occupational accidents as a reliable indicator and prerequisite for benchmarking within the BSR. It aims at joint action of the BSR countries in order to get a more homogeneous picture of the work place accidents, to foster common action for their reduction and thereby to improve the health of the workers and their working conditions and working environment.

The Realocc Accidents project will allow policy makers in the Baltic Sea Region to know better about the real number of occupational injuries and allow a benchmarking. This will enable policy makers and OSH stakeholders to take target-oriented measures for a better prevention of workplace accidents.

The Realocc Accidents project has aimed to provide sufficient background information on the existing situation regarding occupational accidents at workplaces in the Nordic and Baltic States. To obtain how the injury surveillance systems are working in Nordic and Baltic States (Norway, Sweden, Finland, Latvia and Estonia) we developed a short qualitative survey where we posed questions about surveillance systems, data collection agencies, levels of underreporting, evaluation of underreporting and perspectives on improving surveillances systems.

The systems in the various countries are different from each other, but clearly, large majorities of countries have a shared challenge, namely – underreporting. This challenge is particularly significant concerning non-fatal injuries, while most countries indicated that they have no to very little underreporting of fatal injuries.

Norway is the only participating country, which has performed an evaluation of underreporting of fatal injuries. Such underreporting is attributed to traffic related deaths, self-employed workers and immigrant workers. It is highly unlikely that an occupational fatal injury will go unnoticed in any of the countries per se, unless the work was undeclared or illegal which may hinder the employer from reporting fatalities to formal systems.

One could infer that we have a reasonable estimate of fatal injuries in the participating countries (who responded to the survey), but in the absence of robust evaluation studies on underreporting of fatal injuries, we must be cautious in drawing definitive conclusions about completeness of data concerning fatal injuries.

As far as non-fatal injuries are concerned, most participating countries except Finland indicate significant levels of underreporting. Norway, Sweden and Latvia have conducted evaluation studies to estimate the amount of underreporting. Several countries have suggested that reasons for underreporting could be workers fear of reprisal from the employer or lack of awareness among both the workers and employer. The employers may not report because this may generate a reaction from the inspection authorities that may lead to fines or other kinds of retribution that may hinder “production”. Moreover, there are also groups of workers who may or may not be covered by the law

or insurance schemes, for e.g. self-employed workers in Norway are covered only if they have voluntarily agreed to participate in the national social insurance scheme. Except for Finland, all the other countries either have the labor inspectorate and/ or the national social security agency involved in data collection for both fatal and non-fatal injuries. These data are often collected based on some regulation that requires mandatory reporting of occupational accidents to concerned agencies in participating countries.

There might be some reason to believe that private insurance systems are more efficient at collecting data as the Finnish experience suggests. However, in Norway there are both social and private insurance systems, but neither of these systems function optimally to provide a realistic overview of non-fatal injuries at work. In fact, the underreporting of traumatic injuries like upper-extremity amputations was even more pronounced in the private insurance system than in the social insurance system. However, the reporting to social insurance system in Norway is mandatory for the employers while the private insurance data are based on claims voluntarily filed by the workers or their family.

There was general agreement across the countries that more information is needed and more awareness must be created about reporting requirements. Some countries like Latvia and Finland have suggested closing loopholes or gaps in regulation so that all workers (for e.g. posted workers, self-employed workers) are covered by insurance/ reporting systems. A better enforcement regime of legislation about reporting requirements should also be considered. Latvia, Norway and even Sweden also have the possibility of obtaining data from the health care systems. There is thus a possibility of acquiring data from several sources and having a better overview of occupational injuries, which needs better coordination between the institutions that collect such data.

To summarize the results from the survey:

1. Reporting of fatal injuries seems to be acceptable, but very few studies have evaluated completeness of such systems.
2. Underreporting of non-fatal injuries remains a prevalent problem.
3. No evidence suggests that private or social insurance system provides a better surveillance mechanism.
4. Underreporting can be attributed to several factors including, but not limited to lack of information, employer's fear of reporting (inspection or fines) and the workers fear of reporting (job security).
5. There is a need for better legislation to cover "all types of workers" concerning reporting requirements.
6. More information and awareness about reporting requirements for both employers and workers is needed.
7. Coordination with relevant national agencies to obtain a better overview of injuries at work is necessary.

Denmark and Iceland have partially answered the survey and their responses are enclosed as annexes (1 and 2). Moreover, Denmark and Iceland are not NDPHS member countries.

Norsk sammendrag

Prosjektet «Pålitelig arbeidsskaderegistrering – indikator for forebygging» er et prosjekt støttet av SEED MONEY FACILITY og EU Strategy for de baltiske landene. Formålet med prosjektet har vært å skaffe tilstrekkelig informasjon om dagens situasjon når det gjelder arbeidsskader og å utvikle et større prosjekt i de baltiske landene (med mulighet for utvidelse til flere EU-land).

Formålet med et større prosjekt i forlengelsen av dette er å utvikle velfungerende rapporterings- og registreringssystem for arbeidsskader. Prosjektet ønsker å fremme tiltak i de baltiske landene for å gi en bedre oversikt over arbeidsskader, og fremme tiltak for å redusere forekomsten av arbeidsskader.

Det er også et mål at prosjektet vil gi beslutningstakere i de baltiske landene bedre kunnskap om det virkelige antall arbeidsskader og bruke dette som et referansemål. Dette vil kunne bidra til å sette i verk målrettede tiltak for en bedre forebygging av arbeidsskader.

Prosjektet ønsker å gi tilstrekkelig bakgrunnsinformasjon om den eksisterende situasjonen når det gjelder arbeidsskader i Norden og Baltikum. For å få oversikt over hvordan arbeidsskader registreres og følges opp i Norden og de baltiske landene (Norge, Sverige, Finland, Latvia og Estland) utviklet vi en kort kvalitativ undersøkelse der vi stilte spørsmål med hensyn til overvåkingssystemer, datainnsamling etater, nivåer av underrapportering, evaluering av underrapportering og forslag til hvordan systemene kan forbedres.

Funnene har vært at systemene i de ulike landene er forskjellige fra hverandre, men et stort flertall av landene har en felles utfordring, nemlig underrapportering. Denne utfordringen er spesielt viktig med hensyn til ikke-dødelige arbeidsskader, mens de fleste land rapporterer at de ikke har noen til svært liten underrapportering av arbeidsskadedødsfall. Norge er det sannsynligvis det eneste landet som har utført en robust evaluering av underrapportering av arbeidsskadedødsfall. En slik underrapportering er sannsynligvis ofte knyttet til trafikkrelaterte dødsfall, selvstendig næringsdrivende og arbeidsinnvandrere. Det er svært lite sannsynlig at et arbeidsskadedødsfall vil gå ubemerket hen i noen av landene, med mindre arbeidet var svart eller ulovlig, hvilket kan forhindre at arbeidsgiver rapporterer dødsfall.

Vi kan anta at vi har et rimelig estimat for arbeidsskadedødsfall, men i fravær av grundige evalueringsstudier av underrapportering må vi være forsiktige med å trekke konklusjoner om fullstendigheten av data om arbeidsskadedødsfall.

Når det gjelder ikke-dødelige arbeidsskader, svarer de fleste land unntatt Finland at det er en betydelig underrapportering. Norge, Sverige og Latvia har gjennomført evalueringsstudier for å anslå mengden av underrapportering. Flere land har foreslått at årsakene til underrapportering kan være arbeidstakers frykt for represalier fra arbeidsgiver eller mangel på bevissthet blant både arbeidstakere og arbeidsgiver. Arbeidsgiverne kan unnlate å rapportere fordi dette kan skape en reaksjon fra tilsynsmyndighetene som igjen kan føre til bøter eller andre typer straff. Dessuten er det også grupper av arbeidstakere som ikke alltid dekkes av loven eller forsikringsordninger, f.eks. selvstendig næringsdrivende i Norge, som bare dekkes hvis de frivillig har samtykket i å delta i den nasjonale trygdeordningen. Med unntak av Finland har alle landene enten Arbeidstilsynet og/eller nasjonal trygdeordning involvert i registrering av både arbeidsskadedødsfall og ikke-dødelige arbeidsskader. Som regel stiller lovverket i landene krav til slik registrering og etterfølgende rapportering til de aktuelle instansene.

Det kan være grunn til å tro at private forsikringssystemer er bedre egnet til å samle inn data som den finske erfaringen tilsier. Men i Norge finnes både sosial og privat forsikring, og ingen av disse

systemene fungerer optimalt for å gi oversikt over ikke-dødelige arbeidsskader. Underrapportering av alvorlige ikke-dødelige skader, som f.eks. amputasjoner var et større problem i det private forsikringssystemet enn i den offentlige trygdeordningen. Imidlertid er rapportering til trygdeordningen i Norge obligatorisk for arbeidsgiver, mens de private forsikringsselskapene baserer seg på opplysninger som er frivillig innlevert av arbeiderne.

Det var bred enighet på tvers av landene om at mer informasjon er nødvendig og det må skapes mer bevissthet om krav til rapportering. Noen land som Latvia og Finland har foreslått å fjerne smutthull eller mangler i forskriften slik at alle arbeidstakere (utsendte arbeidstakere, selvstendig næringsdrivende arbeidere) er dekket av forsikring og rapporteringssystemer. En bedre håndheving av lovgivningen med hensyn til rapporteringskrav bør også vurderes. Noen land som Latvia, Norge og Sverige har også mulighet for å innhente informasjon fra helsesystemer. Ved å samle data fra ulike kilder vil man kunne forbedre oversikten over arbeidsskader. Dette forutsetter et mer velfungerende samarbeid mellom de ulike instansene som samler inn data.

Oppsummering av resultatene fra undersøkelsen:

1. Rapportering av arbeidsskadedødsfall synes å være akseptabel, men svært få studier har evaluert fullstendigheten av slike systemer.
2. Underrapportering av ikke-dødelige arbeidsskader er fortsatt et utbredt problem.
3. Ingen bevis tyder på at private forsikringssystem eller offentlige trygdeordninger gir en bedre overvåking.
4. Underrapportering kan tilskrives flere faktorer, f.eks. mangel på informasjon, arbeidsgivers frykt for å rapportere (inspeksjon eller bøter) og arbeidstakeres frykt for å rapportere (jobbsikkerhet).
5. Det er behov for bedre lovgivning for å dekke "alle typer arbeidstakere" med hensyn til krav til rapportering.
6. Mer informasjon og bevissthet om rapporteringskrav for både arbeidsgivere og arbeidstakere er nødvendig.
7. Samordning mellom relevante nasjonale instanser for å få en bedre oversikt over arbeidsskadene er nødvendig.

Danmark og Island har delvis besvart undersøkelsen, og deres svar følger som vedlegg (1 og 2). Danmark og Island er ikke NDPHS medlemsland.

The Survey

The survey questions were developed in close collaboration with researchers and practitioners Task Group for Occupational Safety and Health. This survey was deliberated over several BSN/TG OSH meetings before we concluded on conducting a qualitative survey of the systems for reporting and registering occupational and work related accidents. A pilot survey was tested out in Norway and the Norwegian response was sent out to BSN OSH members.

The following questions were asked in the survey:

1. Please explain your official surveillance system / systems (data gathering, analysis and reporting) for fatal and non-fatal injuries caused by accidents and violence at work in brief.
2. Are workers in all sectors included in the reporting system?
3. Is there underreporting of fatal and non-fatal injuries? Are there any research studies, evaluations that have addressed this issue?
4. What may be the causes of underreporting and the reason for such low numbers of injuries?
5. How could you improve the reporting of injuries? Are any other sources of data that could be useful for better surveillance?

Undersøkelsen

Spørsmålene i undersøkelsen ble utviklet i tett samarbeid med deltakere i Task Group for Occupational Safety and Health. Undersøkelsen ble behandlet i flere BSN/TG OSH møter før det ble konkludert med å utføre en kvalitativ undersøkelse av systemene for rapportering og registrering av arbeidsskader. En pilotundersøkelse ble testet i Norge og det norske svaret ble sent til BSN OSH medlemmene.

Følgende spørsmål ble stilt i undersøkelsen:

1. Vennligst forklar hvordan det offisielle overvåkningssystemet/systemene (datainnsamling, analyse og rapportering) for arbeidsskadedødsfall og ikke-dødelige arbeidsskader fungerer.
2. Inkluderes arbeidstakere fra alle sektorer i rapporteringssystemet?
3. Forekommer underrapportering av arbeidsskadedødsfall og/eller ikke-dødelige arbeidsskader? Finnes det studier eller evalueringer som har vurdert dette?
4. Hva kan være årsakene til underrapportering og lavt antall arbeidsskader?
5. Hvordan kan rapporteringen av arbeidsskader forbedres? Finnes andre datakilder som kan bidra til bedre overvåkning?

Replies from the participating countries

Sweden

Please explain your official surveillance system / systems (data gathering, analysis and reporting) for fatal and non-fatal injuries caused by accidents and violence at work in brief.

Sweden's official occupational injury statistics are built upon reports of work-related injuries according to the Occupational Injury Insurance in the Social Insurance Code. These reports are made to the Social Insurance Agency, but it is the Work Environment Authority that, from these reports, produces official occupational injury statistics. It is the employer that is responsible for reporting occupational injuries. It is also these statistics that are the basis for the reporting from Sweden about work-related accidents and illnesses to Eurostat and ILO.

Furthermore, the employer is obligated to report all serious accidents and serious incidents at work to the Swedish Work Environment Authority. This is a signal system for the Swedish Work Environment Authority to act when serious accidents occur.

Are workers in all sectors included in the reporting system?

Yes, all employers are covered by the rules for reports, which are found in 3 chapter. 3 a § in the Work Environment Act and in 42 Chapter 10 § in the Social Insurance Code. The employer should make the report in consultation with the safety representative. If one does not report serious incidents and accidents, one could be liable to pay fines.

Is there underreporting of fatal and non-fatal injuries? Are there any research studies, evaluations that have addressed this issue?

When it comes to accidents with fatal outcome, in Sweden we have no underreporting. Several different sources contribute to this. The press service at The Work Environment Authority receives alerts about accidents at work in general and fatal accidents in particular which they convey further. They also do their own searches in the media for cases of death. The Work Environment Authority also has cooperation with other authorities regarding fatal accidents at work, for example with The Swedish Police, The Swedish National Electrical Safety Board, The National Board of Forestry, and The Swedish Transport Agency.

When it comes to the reporting of occupational injuries, there is underreporting. In order to create deeper understanding of the quality of the data that is collected regarding health problems caused by work and statistics of reported occupational injuries, register cross-referencing problems have occurred on three occasions, in 1994, 1999 and 2003. In the studies, one has, among other things, compared the proportion of people who, in recurring interview investigations, stated that they have had health problems caused by work, with the actual number of registered occupational injuries in The Work Environment Authorities Information System for Occupational Injuries, ISA.

The results showed that accidents at work were reported to a much higher degree than ailments that result from other relationships. The difficulties that are caused by an occupational accident that has led to absence from work have a significantly higher reporting rate, 55 per cent, than occupational accidents without absence from work due to the illness, just over 40 per cent. There are differences between the investigations but the result indicates that the reporting tendency has not changed

particularly much during the 1990s. There is, however, no information about the years after 2000. In 2006, work was started with a new register but work was not completed for economic reasons as well as the fact that work was made more difficult by the EU classification that was introduced in ISA in 2002.

The figures from 2012 are not comparable with earlier years due to a change in the questionnaire. There are more people who, in addition to difficulties as a result of work-related accidents, also state that they have difficulties as a result of other relationships in 2012, than in earlier years, and because ailments as a result of other relationships have a lower reporting tendency, this has probably influenced the reporting tendency for occupational accidents.

With work-related health problems, employees are asked if a report to the Social Insurance Agency has been made, but it is not the individual but the questioned employer who has to report the occupational injury. In addition, the employer should also report serious accidents and incidents to The Work Environment Authority according to 2 § in the Work Environment Ordinance. There is a risk that the individual who is asked in the survey of health problems does not know for sure if the employer has reported the occurrence to The Social Insurance Agency.

The two ways of studying the reporting tendencies are not comparable and both are linked to different types of ambivalence. It is difficult for the individual to know if the employer has made a report in the health problem survey, while with register cross-referencing, it is difficult to do the right matching between people in the survey and reported incidents in ISA (The information system about occupational injuries).

Those who have work related difficulties but who state that an occupational injury report has not been sent to The Social Insurance Agency also receive the question about what the cause of this is. It is firstly the employer who is to make the report to the Social Insurance Agency but the responsibility also lies with the injured person to inform their employer. The question in the survey was posted to the individuals themselves and when they state the causes of a report not being done, they perhaps firstly think about why they have not brought up the issue with their employer. The answer alternatives have also been changed somewhat over the years and the diagram below shows therefore only the development during the period 2004 – 2014. The most common causes are that the ailment is not sufficiently serious or other reasons. Fewer than every tenth person states that a report has not been done because one does not receive any compensation. The employer's report does not mean that those who have injured themselves automatically have an occupational injury evaluated. To have this, the person must make his or her own application for compensation.

What may be the causes of underreporting and the reason for (such low?) numbers of injuries?

During a qualitative investigation via in-depth interviews in autumn 2014 with 48 representatives for sector organisations and employers, the following causes were ranked as those that were judged to most strongly affect the inclination to report.

1. Clear information and clear procedures at the workplace
2. The work environment management at the workplace
3. Knowledgeable and well informed staff
4. Management involvement

How could you improve the reporting of injuries? Are there any other sources of data that could be useful for better surveillance?

In Sweden, the basis for reports is regulated through two different laws, the Work Environment Act and the Social Insurance Code respectively. Everything indicates that an insurance-based system would radically increase the inclination to report but the question has not been politically topical for quite some time.

There are other sources, AFA injury database and Injury DataBase, DIDB but they are not assessed as giving a more complete picture than the monitoring of the number of work-related injuries.

The definition of an occupational injury differs between the AFA injury database and ISA.

How big a share of the work-related injuries only exists in the AFA injury database and ISA it is not possible to say, because a comparison has not been done. An attempt to make such a comparison was planned to take place some years ago. However, the rules of confidentiality in place put a stop to it.

The Collective Occupational Injury Insurance Scheme, TFA, encompasses all those employed within the agreement areas of The Confederation of Swedish Enterprise/The Swedish Trade Union Confederation/The Swedish Federation of Salaried Employees in Industry and Services. TKA-KL encompasses all employees in municipalities, county councils, regions, the Swedish Church, and Pacta companies. AFA Insurance also has the task of administrating and regulating occupational injuries in accordance with the State Personal Injury Agreement (PSA) and has therefore information about largely all reported occupational injuries in Sweden. Data of received cases is stored in AFA's injury database, which forms the basis for the annual statistical reports that are produced. AFA has produced a report regarding 2014, which, however, only covers statistics up to and including 2012. During registration the focus is upon serious injuries, that is sick-listing of more than 30 days and medical invalidity, which are also those injuries which are primarily presented in the report.

Injury DataBase, DIDB, Sweden is a part of a European cooperation (EURO-IDB), which aims at collecting and presenting injury statistics of accidents, attacks and purposefully self-destructive action where the injured party needs to seek care from a doctor at an emergency centre. The statistics are mainly meant to give knowledge background for injury prevention activities on national and European level but can also be used as background material for preventive activities at local level. IDB Sweden consists of data collected from emergency centres and on-call centres at eight hospitals. The average population in the catchment area covered approximately seven per cent of Sweden's population in 2009. The injuries which are reported to the database are calculated according to national number estimates and population-related figures. In 2009, 47 800 injury cases were reported to IDB. From this just over 688 000 persons in Sweden were estimated to have sought emergency care as a result of injury the same year. Men were mainly affected to a somewhat larger extent except in the older age group where women were more affected by injury.

Prepared by: Magnus Falk, Swedish Working Environment Authority

Latvia

Please explain your official surveillance system / systems (data gathering, analysis and reporting) for fatal and non-fatal injuries caused by accidents and violence at work in brief.

In Latvia there are 2 dominant systems for data gathering on occupational accidents at work.

Firstly the system mostly associated with employers responsibilities are the registration system for accidents at work set out by Cabinet Regulations Nr.950 «Procedures for Investigation and Registration of Accidents at Work» [1] that basically defines what occupational accidents are and sets rather detailed order on their notification, investigation and reporting. Regulations also include report form and all necessary classification codes in accordance with European Statistics for Accident at Work (ESAW).

These regulations are issued based on the requirements of Labour Protection Law [2] that sets general obligation of the employer to investigate occupational accidents and sets detailed rules for such procedures. The regulations are linked with the requirements of «The law on compulsory social insurance in respect of accidents at work and occupational diseases» [3] that requires the formal notification procedure to be done by the employer and the case to be registered at State Labour inspectorate [4] (SLI) in order to obtain any compensation. Regulations require to register any accident with more than 3 days of absence from work at SLI while the accidents with shorter absence from work or case that might lead to work disability at later stage (e.g. cases with potential infectious diseases) are registered at the employer only.

The other system for notification of occupational accidents looks at them from the health care system and is based on the obligation of the medical staff to report suspected or reported occupational accidents that are submitted to hospitals or any other health care centre. These reports have to be sent to State Labour inspectorate until the 10th of the next month and these reports shall include following data: name, birth date, workplace and seriousness of accident. However SLI are not controlling whether they are sent in and these reports are prepared based on what information is available from the patients. Then in parallel within certain period (1 month) report shall also be submitted to Centre for Disease Prevention and Control [5] (CDPC). However reports to CDPC contains different information and it is based on different coding principles and not those of ESAW as occupational accidents are reported as part of the larger group of any other injury. All the coding for the purposes of CDPC is based on the ICD 10 classification and Recommendations from European Injury Data Base [6]. The causes and locations of accidents (e.g. leisure time, traffic, occupational etc.) are given by the admitted accident victim and not verified. The CDPC also does the analysis of such accidents according to many parameters. The accidents report to SLI are registered at their data base and coded in accordance with ESAW and sent later to Central Statistical Bureau [7]. Analysis of accidents reported to SLI are provided in their bi-annually published report that is available on their web site.

Systems run by CDPC and SLI are running independently and not compared unless specific research projects are started.

Are workers in all sectors included in the reporting system?

According to national legislation there is no difference in which sector the workers are working or any other limiting requirement for occupational accident not to be registered. However there are exceptions

(set by separate Regulation of Cabinet of Ministers) for occupational accidents happening with employees of Ministry of Internal affairs (e.g. policeman, firefighters etc.) and Ministry of Defense (military personnel and other personnel with similar affiliation). Other rescue service workers like those working in emergency health care (ambulances) are covered within general occupational accident reporting system. Another partial exception is aviation industry but more in the way that accidents are registered for aviation safety purposes and if the person suffering has also been an employee also within the general occupational accident reporting system. The activity of so called «microcompanies» that was started in during economic crisis to relieve the tax burden for startups and small companies (less than 5 persons) and are characterised by lower tax rate and significantly lower social benefits still include the obligation to register occupational accidents and workers of these companies are entitled to compensation even if in limited amount.

As to the self-employed persons the situation is generally different as they are responsible for their own safety and health at workplaces and are not covered by requirements of «The law on compulsory social insurance in respect of accidents at work and occupational diseases» [3] which means that they are not obliged to report occupational accidents and could not be compensated from the State Social insurance agency [8] for the damage to health or workability. More then that they have no possibility to voluntarily enter the system of social insurance against occupational accidents (and also occupational diseases).

Is there underreporting of fatal and non-fatal injuries? Are there any research studies, evaluations that have addressed this issue?

Yes, there is underreporting for occupational accidents but most probably mainly for non-fatal injuries. Most recent study “Working conditions and risks in Latvia, 2012-2013” [9] did some analysis both on whether there is survey data on not reporting of occupational accidents and also on Latvian occupational accident rates as compared with EU averages and rates of neighboring countries. As to the survey data it showed that the employees stated that only in 45.8% of cases of occupational accidents (non-fatal) were reported by employer while this rate was 96.2% for fatal injuries. It is hard to calculate any definite number from such survey data but it shows that there is most probably very significant underreporting. Surprisingly the employer survey also revealed significant underreporting as 58.5% of employers said that they have not reporting some occupational accidents (situation is better than in 2010 when the percentage was 78.9%).

As to comparison of Latvian occupational accident data with data from other countries EUROSTAT data on occupational accidents for 2010 were used and it showed that the average incidence for EU27 were 1742 cases per 100 000 workers while it was only 138 cases per 100 000 workers in Latvia and 1218 cases per 100 000 workers in Estonia. Again as there are slight differences in data collection (although they are harmonized in accordance with ESAW requirements) these data shows that there are significant underreporting.

As to fatal injuries there is no concrete data on significant underreporting and most probably there are rather few such cases as the official occupational fatality rate is on average almost 2 times higher (the rate for EU 27 was 2.1 cases per 100 000 workers in 2010, 1.79 cases for EU 15 and 3.9 cases per 100 000 workers in Latvia).

Also the recent hospital submission study showed that from 225 cases with amputations (among patients with aged 18-65) on 22 were reported to State Labour inspectorate while the average on other

some studies shows that percentage of occupational accidents among total number of similar type of trauma is on average 40%.

What may be the causes of underreporting and the reason for such low numbers of injuries?

There are several identified and suspected reasons for underreporting of work-related injuries.

For fatal injuries there are 3 major potential reasons that the researchers have come up with. Firstly some types of fatal injuries (e.g. traffic accidents, robberies etc.) might not be connected to person being at work and the accident being occupational in its nature. Secondly there might be some cases where fatal injuries have happened to persons that have been working without labor contract (illegal workers) and in such cases if the character of workplace allows it the employer might risk hiding such accident. The third reason that has appeared relatively recent is that new work organization forms have appeared and one of the tendencies is to subcontract dangerous jobs to self-employed (making former employees to take such contracts) and in such cases these accidents are not recorded as occupational. It is rather typical recently in industries like construction and forestry.

As to non-fatal occupational accidents there are many reasons of which most important are:

- Employers are still afraid of SLI that they will be punished by SLI for some other violation, this has a correlation with particular company having some pending OSH issues at their company;
- Employers are not informed or are insufficiently informed that they will have to cover costs of accident treatment, rehabilitation and work disability costs for their employees;
- Employees are afraid of losing their job or annoying their employer if they report their accidents;
- Employees are not informed that there are such obligation for occupational accidents to be investigated and reported;
- Employees are not informed on social benefits in such cases and the fact that they will not get any short or long term benefits if accidents are not reported to SLI;
- There are also several legal issues that has to be further improved with regards to reporting; practice of reporting etc.;
- Medical centers are not informed that there is obligation to report suspected occupational accidents.

How could you improve the reporting of injuries? Are any other sources of data that could be useful for better surveillance?

There are several possible measures that could be taken in order to further improve reporting in shorter and longer term:

- Provide more information on benefits of investigating and disadvantages of not reported occupational accidents both to employers, employees and society;
- Identify all the gaps in legal requirements and elaboration of statistical systems to capture as many occupational accidents as possible;
- Full coordination with other institutions involved in specific potential occupational accidents shall be established (e.g. traffic police etc.);
- Medical centers shall be provided with full information on how the potential occupational accidents could be identified and the importance of such action;

- More information (using also alternative means of information, e.g. social media) shall be provided to employers and employees on various aspects of why investigation and reporting of occupational accidents are important.

Prepared by: Ivars Vanadzins, Lasma Kozlova and Linda Skreitule, Institute of Occupational safety and environmental health, Riga Stradins University

Glossary:

Accident: “an accident is an extraordinary incident which has occurred in the working place within one working day or shift, after which health disorders have been caused to a person or the probability of health disorders occurring exists (risk of infection), or the death of the person involved has occurred».

SLI: State Labour Inspectorate

ESAW: European Statistics for Accident at Work

SSIA: State Social Insurance Agency

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- [8] State Social Insurance Agency www.vsaa.lv

Finland

Please explain official surveillance system / systems (data gathering, analysis and reporting) at your country for fatal and non-fatal injuries caused by accidents and violence at work in brief.

The reporting system of accidents at work in Finland is based on the private insurance system. Pursuant to law, the employer is obliged to take statutory accident insurance from a insurance company. In the case of accident at work, the worker has the right to receive compensation. The employer has an obligation to make an accident report to the insurance company.

Pursuant to law, every insurance company underwriting statutory accident insurance in Finland has to be a member of the Federation of Accident Insurance Institutions (FAII), which is responsible of the compilation of occupational accident statistics of workers/employees. Private insurance companies give their information about accidents at work to FAII, which collects all information on accident at work for employees and it publishes statistics on occupational accidents and diseases.

Furthermore, FAII gives their data to Statistic Finland, which keeps official records of occupational accidents. Data of Statistic Finland covers also the occupational accidents of self-employed workers and agricultural workers as well as government workers. Statistic Finland reports annual statistics to the ILO and ESAW.

- In the case of a fatal or serious accident at work occurring in Finland, the employer has to report the accident immediately to the occupational safety and health inspectorate, police and insurance company. A serious accident is an event which causes a high probability of a permanent handicap and complicates the injured worker's normal life.
- FAII have the principal responsibility to coordinate the practical application of statutory accident insurance. FAII collects data on both fatal and non-fatal injuries, related to accidents at work and commuting accidents. FAII collects also occupational diseases including cases of suspected occupational diseases. Violence at work is reported when resulting in injuries that are compensated by statutory accident insurance. These are mainly physical injuries, but also shock after for example an armed robbery.
- The Farmers' Social Insurance Institution (Mela) handles the statutory earnings-related pension and occupational accident insurance of Finnish farmers, fishermen, reindeer breeders and forest owners. Mela collects data on all occupational, fatal and non-fatal injuries as well as occupational diseases data of agricultural entrepreneurs or grant/scholarship recipients.
- Entrepreneurs can take a voluntary accident insurance. FAII collects and records entrepreneurs' fatal and non-fatal occupational accidents and gives data to Statistics Finland.

Are workers in all sectors included in the reporting system? Are self-employed persons included?

All accidents at work, commuting accidents and occupational diseases (also suspected) are covered for wage earners and salaried workers in the FAII register. Entrepreneurs' and their family members' accident insurance is voluntary and so for them the coverage is not complete. FAII has estimated that about half of all entrepreneurs have an accident insurance. However, it is probable that entrepreneurs

in high accident risk sectors are more likely to insure themselves. Farm owners and students as well as artists working with grants have separate accident register that is collected by Mela.

All workers of government organizations, regional administrative bodies and municipalities are covered by statutory accident insurance. Conscripts (non-salaried, non-professional soldiers) are not covered. Professional athletes are not covered by statutory accident insurance.

A separate law and system covers also the work of some non-salaried groups for example pupils, students and prisoners.

- Employee groups entitled to compensation under statutory accident insurance include wage-earners and officials, but there is also a separate law and system for farmers and certain special groups: trainees, family carers, informal carers, artists and researchers receiving a grant or a scholarship, persons in adult labour market training and persons in certain penal and other institutions.
- Family members (married spouses, children, parents or spouses of children or parents) living permanently in the same household as the employer are not entitled to accident compensation, even if they work for the employer and earn salary for their work. However, it is possible to take out a voluntary accident insurance for a family member. Siblings and unmarried partners are covered by statutory accident insurance.
- Self-employed persons are not covered by statutory accident insurance, because they do not have an employer. There are no legal provisions on the statutory occupational accident insurance of self-employed persons. However, self-employed persons can take out a voluntary accident insurance.

Is there underreporting of fatal and non-fatal injuries? Are there any research studies, evaluations that have addressed this issue?

In Finland the reporting level is very high. Underreporting of cases for covered groups is estimated to be very low, because of the economic incentive.

All compensated cases of accidents at work, commuting accidents, occupational diseases or suspected occupational diseases are registered. Also cases with first aid treatment only are registered.

Some very few fatal accidents at work and fatal commuting accidents are not shown in yearly statistics as fatalities because of long time delays (several years between the date of the accident and the date of death).

Some overreporting is also possible due to attempts to receive compensation for accidents, which are not covered by the statutory insurance (outside work and not related to commuting).

Some informal activities and accidents related to unpaid (for example voluntary) work are not covered by the registers. Temporarily posted workers coming from other EU/EEA countries are also not covered by Finnish registers. Instead, temporarily posted workers are covered in the statistical system of the country of origin for example Estonia, Poland, Sweden, Germany, Norway.

What may be the causes of underreporting and the reason for such low numbers of injuries?

Compensated accidents and occupational diseases are defined in national legislation. Some (minor) injuries that don't require any medical care nor result in sick leave are likely to go unnoticed.

Some symptoms that might also be work related (for example people being irritated by indoor air quality/pollutants or mental health related lost work days) are currently not commonly declared as occupational diseases.

How could you improve the reporting of injuries? Are any other sources of data that could be useful for better surveillance?

Accidents at work for temporary posted workers should be included both in the statistical system of the country of origin and the receiving country with an option to filter the duplicate registry entries in international studies. The question is should the country of origin be the primary case to use.

In theory, reporting could be extended to reporting also “near miss” situations in future, but that could be hard to include in the data collection via workers’ compensation insurance. This would require a separate reporting procedure not related to the insurance system (the compensation/claims handling process).

NOTE The Finnish Parliament is considering a revision of the law on occupational accident insurance, which will cause many changes. The law is intended to be applied from the beginning of 2016.

Prepared by: Päivi Hämäläinen, Ministry of Social Affairs and Health, Department for Occupational Safety and Health and Janne Sysi-Aho, the Federation of Accident Insurance Institutions (FAII)

Estonia

Please explain official surveillance system / systems (data gathering, analysis and reporting) at your country for fatal and non-fatal injuries caused by accidents and violence at work in brief.

OH&S area is regulated by the Occupational Health and Safety Act (OHS Act) which defines an occupational accident as damage to the health or death of an employee which occurs in the performance of a duty assigned by an employer or in other work performed with the employer's permission, during a break included in the working time, or during other activity in the interests of the employer. The damage to the health or a death which occurred in the cases listed but which is not in a causal relation to the work of the employee or the working environment is not deemed to be occupational accident.

“Procedure for Registration, Notification and Investigation of Occupational Accidents and Diseases“ (regulation of OHS Act) regulates investigation and registration of occupational accidents. The circumstances of an occupational accident and reasons therefore shall be established in the course of an investigation which is carried out by the employer and in which a working environment representative or, in their absence, an employees' representative shall participate with the right to vote. If the employer lacks necessary knowledge, the employer shall involve a competent expert in the investigation.

The employer shall submit a written report on the investigation results to the victim or a person representing their interests and the regional office of the Labour Inspectorate. The report shall indicate measures to be implemented by the employer to prevent a similar occupational accident.

An employer is obliged to investigate all accidents at work regardless of the duration the worker is absent from work. Labour Inspectorate will investigate all the accidents resulting in death, the need to investigate other work accidents will be decided by the head of the local inspectorate based on the data/results of the investigation provided by the employer.

Register of occupational accidents is kept by the Estonian Labour Inspectorate. These data are used to report to Statistics Estonia, also to the ESAW and to the ILO. The national statistics on occupational accidents is comparable with ESAW Phase III.

Are workers in all sectors included in the reporting system? Are self-employed persons included?

According to the “Occupational Health and Safety Act”, included in the reporting system are public servants and persons working on the basis of employment contracts. This Act applies also to the work of pupils and students during their practical training.

If a self-employed worker suffers a serious or fatal occupational accident in a situation where they work at the same workstation jointly with the workers of one employer or several employers or as a result of an occupational accident the worker's temporary incapacity for work is identified, the doctor shall inform the employer who organises the work of the self-employed worker or with whom the worker has a contractual relationship and the local office of the Labour Inspectorate pursuant to the procedure for registration, notification and investigation of occupational accidents.

Is there underreporting of fatal and non-fatal injuries? Are there any research studies, evaluations that have addressed this issue?

The statistics on accidents at work drawn up by the Labour Inspectorate are based on data officially submitted by employers.

The statistics of fatal injuries in Estonia are probably true. The non-fatal injuries are underreported and it may be assumed that the statistics regarding the activities are not correct.

FATAL INJURY. Over the last year the percentage of occupational accidents that result in death has increased by 50% (respectively, 2,3 and 3,2 per 100,000 persons). The absolute number of fatal occupational accidents has increased in the recent year (respectively, 14 and 20).

The big oscillations on the trend line of fatal occupational accidents of previous years are most likely coincidental and related to the situation characteristic to Estonia: taking into account the small size of the country, there are generally few cases of death and the statistics are therefore dependent on a few single occupational accidents.

NON-FATAL INJURIES. Over the last year the percentage of occupational accidents has decreased by 0.5% (respectively, 676 and 673 per 100,000 employed persons). The absolute number of registered occupational accidents has increased in the recent year (respectively, 4148 and 4180). As in Estonia there is no specific insurance against employment injuries, and occupational accidents are registered against reports filed by employers, we are probably dealing with inadequate reporting of occupational accidents.

The number of accidents at work taken place outside the Republic of Estonia is growing year by year.

In order to compare the statistics of occupational accidents of different countries, Eurostat has implemented a methodology that enables to adjust the data based on the reports of employers in such a way as to be comparable to the data based on insurance. In order to do that, the levels or scales or underreporting of occupational accidents are calculated in countries based on data obtained by performing surveys. In 2007 and 2009, the module of occupational accidents of Eurostat was added to the Estonian Labour Force Survey that grants the possibility to find out the actual number of occupational accidents and thus the level of underreporting of registered occupational accidents based on the results of the survey.

Analysis of the survey results indicates that the average level of underreporting of occupational accidents involving over three days of incapacity for work is 41% (the weight is 2.4). The weight characterises the level of inadequate reporting of occupational accidents and demonstrates the real number of non-fatal injuries that have taken place, compared to the number of registered occupational accidents. For Estonia it means on average about 10 000 non-fatal injuries per year. The level of reporting was very low in construction where, based on the results of the survey, only 17% of occupational accidents are reported; the branches of the manufacturing were viewed together and the resulting reporting level was 48% (the weight is 2.1). Based on the data of the survey, half of the occupational accidents in the manufacturing and even 83% in construction are not registered.

This methodology for finding out the level of underreporting of occupational accidents still needs customization since taking into account the small size of Estonia, there are generally few occupational

accidents; therefore it is problematic to calculate authoritative weights by activities on the basis of the results of the survey.

What may be the causes of underreporting and the reason for such low numbers of injuries?

There are several reasons for underreporting of work-related injuries.

As mentioned earlier, persons included in the reporting system of occupational accidents are public servants and persons working on the basis of employment contracts. Occupational accidents with self-employed workers are included in the reporting system only if they work at the same workstation with others who are working on the base of employment contracts.

There is no specific insurance against employment injuries. The risks are covered by the health insurance (short-term benefits) and pension insurance (long-term benefits). Most of the expenditure of occupational accidents is covered by state (the Estonian Health Insurance Fund and the Estonian Social Security Board). The burden on employers is rather low, so they also have not much motivation to assess and improve working environments. Employers awareness about working environment hazards is low.

There is tendency to hide occupational accidents. There are many non-compliant employers who do not report. They do not want to fill the occupational accidents reports for Labour Inspectorate, they tend to be afraid to declare that working environment in their enterprise is not sufficiently safe and healthy for workers. The employers do not wish to report accidents, assuming that when they have reported, their enterprises will be taken under total surveillance. And, they do not wish to spend their working time on investigating the occupational accidents and other related activities, that is on assessment and improvement of working environments.

How could you improve the reporting of injuries? Are any other sources of data that could be useful for better surveillance?

The Labour Inspectorate and policy makers are working together to improve injury surveillance in Estonia.

To improve reporting:

- the awareness of employers about the costs of occupational accidents in the national, society and enterprise levels shall be raised, using data of cost-benefit analysis;
- the awareness of both employers and employees about the safety of working environments shall be raised.

Glossary:

ESAW: European Statistics for Accident at Work

ILO: International Labour Organization

Prepared by:

Ester Rünkla, Labour Policy Analysis Department, Ministry of Social Affairs with inputs from Ivar Raik, Working Life Development Department, Ministry of Social Affairs and Rein Reisberg, Labour Inspectorate

Norway

Please explain your official surveillance system / systems (data gathering, analysis and reporting) for fatal and non-fatal injuries caused by accidents and violence at work in brief.

In Norway, there are at least four systems that potentially could be used for surveillance purposes, but none of these offer a complete picture of the situation.

- The national statistics for fatal and non-fatal injuries are collected based on a law where an employer is required to report the injury at work that could yield workers compensation to social security (SS). If the employer does not report, the worker can report himself to the SS. These data are the basis for ESAW reporting of serious non-fatal injuries, which are transmitted, to EUROSTAT by Statistics Norway. These data are also used to report to the ILO.
- The employer is also required to report fatal and serious injuries to the Labour Inspectorate (LI). The national fatal injury to ESAW is reported based on these employer reports. These data are also used to report to annual statistics to the ILO.
- A third source is workers compensation claim to the employer's private insurance (PI) carrier as result of a fatality or serious injury.
- Fourth source is the national patient's registry (NPR) that records injuries treated at hospitals in Norway. However this source seldom includes data on work-relatedness of the injury and thus is of little utility to national injury surveillance. Another weakness is that in general still only about 50 % of the hospitals do report to NPR.

Only SS and LI are used for national statistical portraits and reporting as of 2013. The other systems offer too little data to be included in any type of national statistics. None of the four systems are synchronized, and they run completely independent of each other.

Are workers in all sectors included in the reporting system?

The Labour Inspectorate has until recently been the source for reporting to ESAW and ILO; thus, only numbers for these workers have been reported until now. Although the law concerning fatal and non-fatal injuries applies legislation includes maritime, aviation and offshore sectors there has not been a national coordination of these data. These agencies have their own statistics for fatalities and non-fatal injuries. However, it is the LI that has large majority of fatal and non-fatal injuries every year. The establishment of Norwegian Surveillance Agency for Occupational Health (NOA) in 2006 has led to increased focus on coordination of the various sectorial agencies with regards to fatal injury data. From 2014 onwards, the responsibility for reporting is the Statistics Norway and they will coordinate injury reporting to ESAW. This process is under development and we would know more about the outcome of this measure in 2015.

Self-employed workers in high-risk sectors and operations are covered by the Working Environment Act, but not necessarily by the SS act. The coverage by SS varies for self-employed as they may choose to have a contract with the SS or they may choose to opt out of SS plan. The lack coverage for the self-employed by SS may impact the non-fatal injury data as the source of these data is SS and if the self-employed worker has chosen to opt out of the SS plan then they have no incentive to report to SS.

However, it must be said that the regulation with regards to self-employed is quite complex to interpret. It is therefore not easy to know how many of the self-employed are required reporting injuries at work.

All foreign workers (immigrant) legally employed in Norway if injured must be reported by the employer to SS and LI.

Is there underreporting of fatal and non-fatal injuries? Are there any research studies, evaluations that have addressed this issue?

Yes, both for fatal and non-fatal injury.

FATAL INJURY is difficult to conceal and we have reason to believe that most fatal injuries are captured in our system at the LI. These just concern land-based workers and we are unable to comment on the data on other sectors. Having said that there have been no fatal injuries in the offshore sector in the recent past thus, the question of underreporting for offshore sector in Norway is a moot point.

There remains however some doubt about work-related fatal injuries in traffic. A report has suggested up to 36% of traffic related fatal injuries were work-related where the deceased was either a driver or passenger. A study from 2009 based on data from 2000-2003 indicated that only 66% of estimated fatal injuries were reported to the LI. Since then surveillance of fatal data in terms has improved, however a concern remains with regards to quality and completeness of data that is collected. For instance, the LI does not systematically collect data on unique id (personal identification number) for the deceased (dead) worker, which is a prerequisite for comparison with data on fatal injuries from other sources. Nor does LI systematically register occupation and business size, as of today. The last evaluation of fatal injury surveillance systems is based on data from 2000-2003 which showed only 66% of the estimated number of fatalities are reported to LI. We believe that LI now is better at capturing our fatalities, but we have not conducted an evaluation on more recent data; thus, it is difficult to comment on how much, if any, cases of fatal injuries are not being reported to LI.

NON-FATAL INJURY. NOA, based on representative self-reported surveys, has estimated about 105 000 non-fatal injuries – this estimate includes all sectors. NOA has also estimated about 25 000 serious injuries (accidents causing injury with four or more days away from work). In addition there are research studies based on primary data (serious injuries and amputations) that show extensive underreporting of non-fatal injuries in Norway. In the last few years on average about 20 000 non-fatal injuries have been reported to ESAW.

What may be the causes of underreporting and the reason for such low numbers of injuries?

There are several reasons for underreporting of work-related injuries.

As mentioned earlier, fatal injuries are difficult to conceal, and as far as land-based sector is concerned, we are hopefully capturing most of the cases. However, fatalities caused by violence (robbery or terrorism) may not be intuitively thought of as work-related accident. Thus, unintentionally, employers or workers or their families don't report. The other type of fatalities which might be difficult to capture are traffic related injuries which may be during course of the work. It is likely that LI does not necessarily get the information from Police or Road safety authorities.

Underreporting of non-fatal injuries is more complex. There are non-compliant employers who don't report. However, many non-compliant employers fail to report because of difficult and bureaucratic reporting systems. Besides, the guidance from LI and SS might seem confusing on what is a reportable

injury. The SS guidance states that any injury that requires medical attention is reportable, while LIs law on reportable serious injury does not define the “concept” of serious injury in the law or regulations.

The employers have several requirements from the authorities and reporting of injuries to several agencies on different forms adds to their burden. Moreover, LI does not enforce the “injury reporting requirements” nor is there any indication that SS has an enforcing regime for dealing with non-compliant employers who fail to report occupational injuries. This lack of enforcement likely has a bearing on what gets reported or does not get reported.

In addition, there is epidemiological surveillance literature that indicates workers in precarious situations like immigrant workers, undeclared workers and also temporary workers might be averse to reporting injuries. Self-employed workers who have opted out of the national SS plan do not report to SS as there is no compensation incentive for them.

There may be instances where employers would like to keep their insurance premiums down by keeping loss of days at work down to a minimum and hence not report injuries.

How could you improve the reporting of injuries? Are any other sources of data that could be useful for better surveillance?

There are several measures that could be taken in order to improve reporting.

1. At a strategic level, the governments need to display political will to invest in robust surveillance systems (data gathering and quality control). In fact, Norway has few fatal injuries, and there has been marked improvement in quantity of data we collect, but there is room for improvement with regards to quality of information. Non-fatal injuries are however an enormous challenge that often disables the worker, sometimes for life. Non-fatal injuries incur enormous costs and negatively impact productivity, much more than fatal injuries because of sheer volume of cases (n = 105 000). Economic analysis should therefore supplement available epidemiological data to support this perspective because governments lose enormous amounts of revenue because of injuries that could be prevented. Finally, the health sector data (NPR) present a huge potential if the data are coded for work-relatedness. In general at a strategic level, better coordination of data from all the sectors is necessary, but the different agencies and institutions responsible for the data are part of different ministries. Better inter-ministerial coordination is critical for better surveillance and prevention of work-related injuries.
2. At an operative level the LI (LIs for other sectors) and SS in Norway need to develop measures to improve compliance to employer’s injury reporting requirements. At the same time these agencies need make it easier for the employers to report with use of appropriate technology like online reporting (apps). The governmental agencies need to work closely and look at the surveillance (compensation data) and prevention in a loop that could save lives and limbs, reduce costs of disability and contribute to improved productivity. There is also an opportunity to improve data quality by collaborating with private insurance agencies. The private insurance agencies, LI, employers and workers could clearly benefit from such collaboration because this will lead to better data. Better surveillance data will translate to targeted prevention efforts for better protection of workers, lower premiums for employers and lower costs for insurance companies and SS.

Finally, Statistics Norway clearly has a role for better coordination of the data and reporting to ESAW. In fact, Statistics Norway has begun publishing of data for 2014 in June 2015; however, these published data lack a majority of the ESAW variables and do not comment on the quality of data or underreporting per se.

However collection, quality control and application of these surveillance data for prevention purposes still remains an area of concern as the primary source of data are still regulations administered by the LIs (all sectors) and SS.

More research and evaluation of surveillance systems is critical and research institutions in Norway such as STAMI, SINTEF and IRIS along Statistics Norway have a critical role to play in development and evaluation of surveillance systems moving forward.

Glossary

Accident: An event/ acute exposure that may lead to fatal injury, non-fatal injury or material damage (near accident without any person involved)

Injury: Any physical or psychological harm caused by an accident or an incident such as violence

SS: The Norwegian Social Security Agency (NAV – The Norwegian Labour and Welfare Administration)

LI: Norwegian Labour Inspectorate

ESAW: European Statistics for Accident at Work

ILO: International Labour Organization

NOA: Norwegian Agency for Surveillance of Occupational Health

STAMI: National Institute of Occupational Health

IRIS: International Research Institute of Stavanger

SINTEF: Largest research organization in Norway and Scandinavia

Prepared by:

Yogindra Samant, Norwegian Labour Inspection Authority with inputs from Ebba Wergeland, Norwegian Labour Inspection Authority; Stig Winge, Norwegian Labour Inspection Authority; Bodil Mostue, Norwegian Labour Inspection Authority; Anne Marie Lund Eikrem, Norwegian Labour Inspection Authority; Hans Magne Gravseth, National Institute of Occupational Health; and Johan Lund, Directorate of Health, Norway

Annexes 1 and 2

1. Reply to the survey from Iceland
2. Reply to the survey from Denmark

Responses from Denmark and Iceland are not included in the main summary as they are not part of the NDPHS, however have been kind enough to reply some of the questions in the survey. Their responses provide a more insight in to the surveillance systems for occupational injuries in the Nordic context.

Iceland

Please explain your official surveillance system / systems (data gathering, analysis and reporting) for fatal and non-fatal injuries caused by accidents and violence at work in brief.

The employer is responsible for reporting all serious accidents, i.e. accident that are likely to have longstanding consequences for the victim, or accidents involving one more day in addition to the day of accident in absence from work to the Administration of Occupational Health and Safety. In case of very serious accident it should be notified to the Administration immediately or within 24 hrs.

In practice we get notified by emergency call dispatcher (112) about the accident; in case of other accidents within a week. The information reported involves the name of the workplace, nature of work involved, name of victim, age, nationality, position, length of employment, date and time of accident. Description of the accident, cause of accident, causal factor, type of injury, and how long time away from work.

Are workers in all sectors included in the reporting system?

All workers on land are included. Registered seamen and aviation crews are covered by different authorities.

Are you aware of underreporting of fatal and non fatal injuries? Are there any research studies, evaluations that have addressed this issue?

We are not aware of underreporting of fatal accidents. We know that 70 % of registered accident victims in the Icelandic accident registry in 2012 were male (<http://www.landlaeknir.is/tolfraedi-og-rannsoknir/tolfraedi/heilsa-og-lidan/slys/>).

This registry is based on all those seeking help for their accident from any authority or health care services. In our registry the percentage of men is 64%. Given the fact that women are more prone to seek medical services we have concluded that there is likely a underreporting of occupational accident at least involving men.

If yes: What may be the causes of underreporting and the reason for (such low?) numbers of injuries?

We have assumed that this is related to the fact that more men work in small business involving significant occupational risk, while women are more likely to work in health and social services that have been shown to report occupational accidents more appropriately.

Our registry is open to the public through the following link: <http://slysatolfraedi.ver.is>

Prepared by: Carsten Brueck, KOOP, Germany with inputs from Kristinn Tomasson, Occupational Safety and Health Administration, Iceland

Denmark

Please explain your official surveillance system / systems (data gathering, analysis and reporting) for fatal and non-fatal injuries caused by accidents and violence at work in brief.

Reporting of work accidents is compulsory. Employers are obliged to register work-accidents from 1+ day absence time electronically ("EASY" data base). Data is submitted to both the labour inspectorate which is the authority in charge of surveillance and prevention and the work compensation system which takes care about the compensation of injured workers. In contrast to Germany or Finland, the registration of work accidents is not in the hands of a work accident insurance institute or body. Denmark has a single social security system which covers general health insurance and health treatment as well as work accidents.

Are workers in all sectors included in the reporting system?

Yes, all workers are included in the reporting system, only self-employed drop out.

Are you aware of underreporting of fatal and non fatal injuries? Are there any research studies, evaluations that have addressed this issue?

Estimations are that 40 %-50 % of work accidents are reported in Denmark. Recently, the Danish trade unions LO published a report which compared official data and data from hospital treatment.

If yes: What may be the causes of underreporting and the reason for (such low?) numbers of injuries?

There are basically two weaknesses which contribute to the underreporting of work accidents: the lack of effective incentives for reporting and the difficulty of enforcement in cases of non-reporting.

As the authorities, basically the labour inspectorate is not be aware of non-reported cases the inspectors cannot make impose sanctions against the employers.

There are little incentives, neither positive nor negative, to report work accidents. If a worker will be absent 30+ days from work, the employer can get a compensation for the wages when reporting the accident. Until then there are practically no consequences for non-reporting. The worker will get medical treatment regardless of being hurt at work or outside work. The only worker's interest to report an accident is in cases of severe health consequences e.g. cases of disability benefits or premature retirement.

Prepared by: Carsten Brueck, KOOP, Germany with inputs from Johnny Dyreborg, National Research Centre for Working Environment, Denmark

Work-related injuries – A Hidden Tragedy

The following information on the situation on underreporting were retrieved from publicly available sources and a report which was recently issued by the Danish Confederation of Trade Unions:

LO - Landsorganisationen i Danmark, Underrapportering af arbejdsulykker. 2nd edition, En ny vinkel på underrapporting. Copenhagen 2015.

The situation in Denmark (2011 figures)

The compensation of workers in Denmark is part of the general social security system which includes general health insurance as well as work accident compensation (EU-OSHA 2010). The Arbejdstilsynet (Danish Working Environment Authority, DWEA) is the responsible authority for the registration of work accidents in Denmark. The 2011 Eurostat numbers on work accidents were as follows:

	Accidents at work involving more than three days of absence from work			Fatal accidents at work		
	Total	Male	Female	Total	Male	Female
EU-28	2 721 629	2 151 383	569 962	3 691	3 540	151
Belgium	55 315	45 322	9 985	66	66	0
Bulgaria	1 748	1 349	399	84	80	4
Czech Republic	37 036	27 698	9 338	134	128	6
Denmark	34 333	26 758	7 484	41	39	2
Germany	747 560	615 970	131 442	469	457	12
Estonia	5 145	3 119	2 026	16	16	0
Ireland	11 101	8 714	2 359	47	46	1
Greece	12 617	10 147	2 470	34	34	0
Spain	363 510	277 653	85 857	336	327	9
France	483 476	373 694	109 782	501	478	23
Croatia	10 875	8 349	2 526	37	34	3
Italy	321 084	259 155	61 929	510	487	23
Cyprus	1 747	1 363	384	5	5	0
Latvia	1 050	770	280	29	26	3
Lithuania	2 155	1 586	569	49	44	5
Luxembourg	6 320	5 410	910	10	10	0
Hungary	19 988	14 171	5 817	75	73	2
Malta	2 121	1 925	196	1	1	0
Netherlands	119 941	84 708	35 233	37	36	1
Austria	58 253	48 502	9 751	106	102	4
Poland	69 352	52 723	16 629	344	335	9
Portugal	121 730	95 734	25 995	180	174	6
Romania	2 810	2 309	501	273	249	24
Slovenia	12 449	9 986	2 463	19	18	1
Slovakia	7 734	5 694	2 040	37	36	1
Finland	40 302	32 649	7 653	29	29	0
Sweden	24 089	18 407	5 681	50	44	6
United Kingdom	156 416	124 456	31 951	172	166	6
Norway	14 855	12 335	2 520	34	32	2
Switzerland (*)	67 502	56 715	10 787	68	64	4

(*) NACE Rev. 2 Section A and Sections C to N.

(†) 2010.

Source: Eurostat (online data code: hsw_mi01)

Ill.: Accidents at work in the EU 2011 (Eurostat graphic)¹

Like in other European countries, it can be suspected that the official registration of accidents does not entirely reflect on the real situation at the work places. The total workforce (2014) in Denmark is roughly 2.9 Mio people (Statistics Denmark 2015) while it is 2.4 Mio. in Finland (Statistics Finland 2014). Despite the fact that the forestry and agricultural sectors are bigger in Finland than in Denmark, the Danish figures should be still at least on the Finnish level or slightly above.

An analysis of the Eurostat figures of work accident shows, that the number of fatal accidents in Denmark was 141% in comparison to Finland in 2011, while the total number of reported accidents was only 85% of the Finnish. If we use the coefficient method (Kurppa 2015) the number of total work accidents would rise to 41,000 (EU-15 medium coefficient of 1:1000) or even to 47,150 (Germany coefficient 1:1150) respectively 52,890 (Finland coefficient 1:1290). Depending to the coefficient, the reporting rate would be between 83% and 64%.

In the report “Underrapportering af arbejdsulykker“ (LO 2015) another method was used in order to estimate the real number of accidents at work: Work injuries treated in or reported to the Emergency Department (ED) of the Odense University Hospital between 2003 and 2010 were compared to

¹ http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Number_of_serious_and_fatal_accidents_at_work,_2011_%281%29_%28persons%29_YB14.png

injuries reported to the DWEA from the statistical area of Odense. Roughly 50,000 work injuries were treated in the ED area. By combining data it was found out that 50% of them were not reported to the DWEA. The overlap between both datasets was only 16%. It was also found out that certain types of injuries (eye injuries, superficial wounds) were typically only reported to the ED, while back pain typically only to the DWEA. After excluding a certain number of not severe injuries from the statistical analyses, the report concluded that underreporting of work accidents in the official DWEA statistics would be around 30%.

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