**Description of data collection methods for each country**

**Physician-reported datasets (Table 1 in main document)**

**France:** Le Réseau national de vigilance et de prévention des pathologies professionnelles (RNV3P) network [1] comprises all 32 occupational disease (OD) centres located in French University Hospitals and is operated by the French National Agency for Health Safety in Food, Environment and Work. Patients with suspected work-related disease are referred to these centres by occupational physicians (OP), general practitioners or clinical specialists. The decision to refer a patient will depend not only on the OD and/or level of severity but the level of access to diagnostic tests or experience of the physician. The strength of the association between a disease and each suspected work-related causal agent is rated by an OP (employed in the RNV3P network) on a four-class scale (nil, possible, probable and certain). The analysis presented here includes only cases designated probable and certain. The denominator is the estimated French working population for each year.

The Maladies à Caractère Professionnel (MCP) protocol [2] is based on a network of around 800 OP per year covering 13/22 regions of France. Each OP volunteers for a two-week observation period repeated every 6 months. Each OP has a known population allocated to them for the year and a consultation can arise for 4 different reasons:
1. Periodic visits – each worker will have a regular routine health check, the frequency of which depends upon the occupation and sector of employment (based on the level of risk of inherent in the occupation). The presence or absence of an occupational disease is recorded.
2. Requested visits – workers or employers may request a visit if they suspect an OD
3. Pre- employment visits – health checks for all new employees
4. Return to work visits – following a period of absence from work

The total denominator for periodic visits (1 above) is the total number of workers screened within a year and for the other visits (2-4 above) is the total population allocated to all the OPs, these were further stratified in the analysis. The reports made to MCP exclude compensated ODs and the workers must be fit enough to attend work therefore the cases are likely to be less disabling than those reported to RNV3P.

**Italy:** All physicians must report suspected OD to Local Health Units. The Malattie Professionali surveillance system (MalProf) [3] collects reports of all diseases possibly related to work through OP working in the prevention services of the local health units. Data from Lombardia and Toscana (representing around 25% of Italian workers) was available from 2000 and from a further 3 regions (Lazio, Liguria, Puglia) since 2006 (around 50% of workers). Currently 12 regions report to the MalProf System (around 80% of workers). The denominators for each region were obtained from the Italian Workers' Compensation Authority (INAIL).

**Netherlands:** In contrast to other European countries there is no specific compensation for OD in the Netherlands. The employer has been obliged to pay social security payments regardless of the cause of an employee's injury or disease since 1967. OP are legally obliged to report anonymised cases of OD to the National registry (NR) at the Netherlands Centre for Occupational Diseases [4]. However of the 2000 OP working in the NL only 400 actively notify OD. A subset of the NR comprised of around

170 highly motivated OP commenced in 2009 with the aim of estimating absolute incidence [4]. These physicians tend to report higher numbers of cases and have a known population. Two further registries consist of about 30 dermatologists and around 20 lung specialists.

**Norway:** Physicians are legally obliged to report to the Labour Inspectorate's Registry of Work-Related diseases, illnesses & disorders (RAS) [5] but only about 3 % of all occupational disorders– roughly around 3000 cases - a year are notified and around half of these are hearing disorders. RAS is used for early identification of sentinel events and to prompt preventative intervention; these data were not included here as they were considered, a priori, to be unrepresentative of national trends in incidence.

The National Institute of Occupational Health (NIOH) dataset is a national, anonymous registry of all patients examined in Norway's six occupational medicine clinics based in large regional hospitals [6]. Usually, only patients needing a more extensive investigation to establish the diagnosis or exposure are seen; therefore patients with NIHL are rarely seen. Only cases judged to be probably or possibly work-related by the physician examining the patient are included here. Data collection started in 2009 but the first year of data collection was not included. Therefore just 3 years of data were analysed.

**UK:** The Heath and Occupation Research network (THOR) is a UK-wide network that collects physician-reported incident cases of ill-health caused or aggravated by work (in the reporter's opinion) seen in the reporting month [7]. Currently around 70% of eligible respiratory physicians, 65% of dermatologists and 50% of OP are THOR reporters. Data collection from rheumatologists stopped in 2009 and audiologists in 2006. Physicians are asked to report every month or one randomly chosen month each year. Each clinical speciality exists as standalone reporting system.

**Recognised compensation data (Table 2 in main document)**

All the countries contributing data have a national 'list' of OD for the purposes of recognition and compensation. Belgium, Finland, France, Italy and Switzerland have a "mixed" system whereby apart from the list, other diseases can be recognised subject to a higher burden of proof of causation by work that varies between countries. The Czech Republic, Spain and the UK have a "closed" system whereby only OD on the national list can be recognised. All the countries except the UK legally require the reporting of suspected OD by any physician (or OP in Belgium) but in Switzerland the worker or employer must report the OD. For all countries all recognised compensation claims irrespective of payment (includes both temporary and permanent disability) were analysed. The denominator was the government estimates of the working population for all countries except France and Italy. For France the denominator was all salaried workers covered by Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés (CNAMTS) [8]. This excludes self-employed persons, job seekers and agricultural workers and therefore is different to the RNV3P denominator (the government estimated working population of France). For Italy the population covered by the Italian Workers' Compensation Authority (INAIL) was estimated by dividing the total wages paid by each employer by the respective average wage [9].

**Belgium:** Data was provided by the Belgium Compensation Fund for Occupational Diseases [10]. All employers must provide a preventative occupational health service that provides a periodical

medical examination for workers at increased risk as specified by the Belgian Law (~67 % employees). There are around 800 OP employed in preventative service who are legally obliged to notify any suspected OD to the Fund.

**Czech Republic:** The source of data was the Czech Registry of Occupational Diseases [11]. Any physician (e.g. general practitioner, factory physician, specialist) who feels a suspicion that his/her patient's disease might be work related is legally obliged to send the patient to one of the Centres for Occupational Diseases authorized by the Ministry of Health; currently there are19 centres. Specialized physicians in the centres make the decision regarding both recognition as an OD and level of compensation using a standardised procedure. These physicians are employees of university or regional hospitals rather than the insurance companies or employers.

**Finland:** All physicians are required by law to notify suspected OD and other work-related diseases to the occupational health and safety authorities who refer claims for OD to the insurance companies. The Finnish Register of Occupational Diseases (FROD) [12] receives reports of OD from both the insurance companies and health and safety authorities. FROD has collected data since 1964 but due to changes in the notification and recognition practices data collected since 2005 cannot be compared with earlier data.

**France:** French employees within the private sector are covered by CNAMTS [8] but agricultural workers, civil servants and the self-employed have a different insurance provider and are not included in this analysis. The cases analysed here have been recognised by Local Health Insurance Funds meaning that the compensation claim fulfils certain criteria related to the OD, the timing of the exposure and the occupation. Some cases that do not fulfil these criteria are forwarded to the Occupational Diseases Recognition Regional Committee; these are not included in this analysis.

**Italy:** INAIL [9] covers all workers and employees who carry out risky activities (most occupations including self-employed workers in the agriculture sector and contract workers). For compensation claims, the worker must send the medical certificate from the local health unit to the employer who has to forward it to the INAIL within five days.

**Spain:** Data was provided by the Occupational Diseases Registry of the Social Security System [13]. In 2007 legislation provided for the requirement of notification of OD by physicians and the development of an electronic reporting system to create an official and public OD register. At the same time the national list of OD was updated and a procedure for updating the list was introduced.

**Switzerland:** OD statistics are compiled by the Central Office for Statistics in Accident Insurance [14]. The majority of claims for occupational diseases are compensated by the Swiss National Accident Insurance Fund (Suva) but there are 28 insurers (Jan 2014) in total. All employers are obliged to be insured for OD and they are obliged to report all OD. All insurance companies (including Suva) must then report to the Swiss Central Office for Statistics in Accident Insurance. All insurers cover commuting workers resident in adjacent countries and these workers are also included in the denominator. A high reporting rate is ensured by incentives for employers, employees, and medical staff in the form of compensations and benefits and tariffs, which are higher as compared to ordinary health insurance.

**GB:** The Department of Work and Pensions (DWP) has a contract with a private occupational health services provider whose role is to give medical advice to help DWP and other government department decision makers reach an appropriate decision on entitlement to benefit. Data was available for the Great Britain population (England, Scotland and Wales) through the Health and Safety Executive [15]; only paid claims data was available for NIHL (rather than recognised claims). The population covered is similar to, but does not exactly match, that covered by the UK surveillance scheme described above (The Heath and Occupation Research network) as this also includes Northern Ireland.

**References**


1. Bonneterre V, Faisandier L, Bicout D, et al. Programmed health surveillance and detection of emerging diseases in occupational health: contribution of the French national occupational disease surveillance and prevention network (RNV3P). Occup Environ Med 2010. 67(3): 178-186.

2. Valenty M, Homère J, Mevel M, et al. (2012) Surveillance Programme of Work-related Diseases (WRD) in France. Saf Health Work 2012; 3: 67-70. http://www.invs.sante.fr/Dossiers-thematiques/Travail-et-sante/Maladies-a-caractere-professionnel Accessed August 8th 2014.

3. The Malattie Professionali surveillance system (MalProf). http://www.ispesl.it/statistiche/index_mp.asp. Accessed August 8th 2014.

4. Molen HFvd, Kuijer PPFM, Smits PBA, et al. Annual incidence of occupational diseases in economic sectors in the Netherlands. Occup Environ Med 2012; 69(7): 519-521.

5. Samant Y, Parker D, Wergeland E, et al. The Norwegian Labour Inspectorate's Registry for Work-Related Diseases: data from 2006. Int J Occup Environ Health 2008; 14(4):272-279.

6. National Institute of Occupational Health (NIOH). http://www.stami.no/start-page. Accessed August 11th 2014.

7. McNamee R, Carder M, Chen Y, et al. Measurement of trends in incidence of work-related skin and respiratory diseases, UK 1996–2005. Occup Environ Med 2008; 65: 808-814. http://www.population-health.manchester.ac.uk/epidemiology/COEH/research/thor. Accessed August 8th 2014.

8. Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés (CNAMTS). http://www.ameli.fr/l-assurance-maladie/connaitre-l-assurance-maladie/getting-informed-about-health-insurance/health-insurance/introduction-of-cnamts.php. Accessed August 8th 2014.

9. Istituto nazionale per l'assicurazione contro gli infortuni sul lavoro (INAIL). http://www.inail.it/internet_web/appmanager/internet/home. Accessed August 8th 2014.

10. Belgium Compensation Fund for Occupational Diseases. www.fmp-fbz.fgov.be. Accessed August 8th 2014.

11. Occupational Diseases In The Czech Republic. http://www.szu.cz/uploads/english/document/Occupational_diseases_in_the_CZ_1996_2012.pdf. Accessed August 8th 2014.

12. Finnish Register of Occupational Diseases (FROD). Occupational diseases in Finland in 2002: New cases of occupational diseases reported to the Finnish Register of Occupational Diseases. http://www.ttl.fi/en/publications/Electronic_publications/Documents/Occupational_diseases_2002.pdf. Accessed August 8th 2014.
http://www.tvl.fi/en/Claims/Compensated-incidents/Occupational-disease--Definition-of-an-occupational-disease. Accessed August 8th 2014.
http://www.ttl.fi/fi/verkkokirjat/ammattitaudit/Sivut/default.aspx. Accessed August 8th 2014.

13. Occupational Diseases Registry of the Social Security System (Seguridad Social). http://www.seg-social.es/Internet_1/index.htm. Accessed August 8th 2014.

14. Central Office for Statistics in Accident Insurance. Statistik der Unfallversicherung UVG. www.unfallstatistik.ch. Accessed August 8th 2014.

15. UK Health and Safety Executive. IIDB - Industrial Injuries Disablement Benefit Scheme. http://www.hse.gov.uk/statistics/tables/index.htm#iidb. Accessed August 8th 2014.