

**Objectives** Drawing on a literature review on sentinel and alert systems for identifying new/emerging work-related diseases (WRDs) a basic typology of systems was developed. These systems differ in characteristics, ability to capture new WRDs and link with prevention. The objectives of the subsequent study of a subset of systems were to describe in-depth aims, drivers and obstacles of the systems and use of their data in practice, for prevention and detecting new/emerging WRDs.

**Methods** Twelve systems were chosen reflecting the different types (linked to compensation or not, aimed at all WRDs or a subset of diseases, sentinel systems, workers only or general public). Six systems were described based on desk research and six other systems were studied through interviews with different actors to gather information on the operation of the systems and the use of the gathered data for prevention.

**Results** Several important themes emerged from the comparative tables, related to the design and performance of the system: visibility, reporting methods, exposure assessment, data quality, linkage to other institutions, and related to data use for prevention, alert on hazardous situations, awareness on new/emerging diseases.

**Conclusions** Each system has its strengths and limitations, closely related to its purpose and the country that developed it. Sentinel systems seem to be best equipped for prevention and alert on new/emerging diseases. Enhancing reporting needs to balance required information and perceived reward for reporters. Embedding of systems in governmental or public health organisations is important in terms of financing, expertise and dissemination of results.

## Oral Presentation

### Other

#### 0182 HIGH SCHOOL DROPOUT AND CAUSE-SPECIFIC MORTALITY IN YOUNG ADULthood: THE MEDIATING ROLE OF WORK CAREER

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**Objectives** High school dropout has unfavourable consequences. We examine the association between dropout and mortality and estimate the mediating role of an unfavourable work trajectory.

**Methods** Subjects born in Norway 1967–1976 were followed up in several national registries. The association between dropping out of high school by age 23 and all-cause and cause-specific mortality 10 years onwards were estimated as hazard ratios (HR), applying Cox regression in confounder-adjusted models. Characteristics relating to different trajectories during follow-up were considered as mediators of dropout effects on survival.

**Results** Thirty-nine percent out of 396 373 participants were classified as dropouts. All-cause mortality during follow-up was 69 per 1 00 000 person-years (2689 cases). The crude

dropout HR was 2.1 (1.9–2.3), being reduced to 1.8 (1.6–2.0) in the confounder-adjusted model. After including the potential mediators in the model, dropouts no longer had an excess mortality compared to non-dropouts (HR 1.0, CI (0.9–1.1)). Mediators relating to financial situation, social benefits and employment accounted for the largest reduction in the association. Deaths caused by overdose and drug dependence were strongly associated with dropout (454 cases; rate 12; confounder-adjusted HR 5.0 (3.8–6.5)). Inclusion of work trajectory factors attenuated the association by 63% (women) and 48% (men).

**Conclusions** Mortality was clearly associated with high school dropout, strongest for drug-related causes. The results suggest that an unfavourable work career following high school dropout could be an important mechanism for this association.

## Poster Presentation

### Neurological Effects

#### 0183 PREDICTORS OF WORK ABILITY IN SOLVENT EXPOSED WORKERS

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**Introduction** Occupational chronic solvent encephalopathy (CSE) often leads to early retirement. However, little is known about work ability in solvent exposed workers in general. The aim was to study the effect of work-related and non-occupational factors on work ability in active solvent exposed population.

**Methods** A questionnaire on exposure and health was sent to 3640 workers in four solvent-exposed fields, i.e. painters and floor-layers, boat builders, printers, and metal workers, resulting in 1730 responses. Work Ability Score (WAS), a single question item of Work Ability Index, solvent exposure, demographic factors, chronic diseases, and employment status were considered in univariate and multivariate analysis. The findings were compared to those of corresponding national blue-collar reference population (n=221), and in addition to a small cohort of workers with CSE (n=18).

**Results** WAS of solvent-exposed workers was lower than that of national reference group, the difference being significant in the oldest age group, but higher than that of workers diagnosed with CSE. Number of chronic diseases and age were the strongest explanatory factors of poor work ability. Solvent exposure was a weak independent risk factor for reduced WAS. Work ability was highest in boat builders, followed by metal workers and printers, and lowest in painters and floor layers.

**Conclusions** In general, the strongest explanatory factors of reduced WAS were chronic diseases, age, and working status. The weak effect of solvents on work ability is in line with improved occupational hygiene and declined solvent exposure levels in an industrialised country. As a single question WAS is easily included in occupational screening questionnaires.

## Poster Presentation

### Psychosocial

#### 0184 CONSIDERING GIVING UP GAINFUL EMPLOYMENT AS PREDICTOR FOR EARLY EXIT FROM THE LABOUR FORCE

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**Introduction** Ill health, socio-economic status and working conditions are important determinants for labour market participation. But this perspective neglects the subjective view of individuals and the role of cognitive processes. The aim of the present study is to investigate the contribution of these considerations for the prediction of subsequent exit from the labour force.

**Method** The sampling frame is defined by all German employees being subject to social security contributions and born between 1951 and 1980. The sample consists of 4511 survey participants of whom 4182 employees are with full- or part-time employment. At the time of the first interview they were asked how often they have thought about giving up gainful employment within the last year. The analysis focusses on the prediction of employment status five years later.

**Results** At baseline 8% of female and of 7.2% male employees reported having “sometimes thoughts within the last year” and 4.4% of the female and 3.7% of the male employees reported a frequency up to “every day”. The follow-up interviews are currently underway and are expected to end May 2017. Results on associations between considerations at baseline and status of employment at follow-up and will be presented at the conference.

**Discussion** Research on the association between cognitive processes and subsequent behaviour is very limited. We assume that the inclusion of these aspects will improve the prediction of labour force participation. However, there are strong limitations by the sample size and the number of observations at the second wave of assessment.

## Poster Presentation

### Cancer

#### 0186 WOMEN EPIDEMIOLOGY LUNG CANCER (WELCA) STUDY: REPRODUCTIVE, HORMONAL, OCCUPATIONAL RISK FACTORS AND BIOBANK

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**Background** Very few studies have examined occupational exposures in jobs that are typically performed by women. WELCA study aims at investigating the aetiology of lung cancer in women, focusing particularly on hormonal and occupational risk factors.

**Methods** WELCA is a population based case-control study in progress (1000 ca/1000 co) ending in 2017. Cases are women with incident lung cancer, living in the Ile de France area and aged up to 75 years. The control group is a random sample of the population living in the same area, frequency-matched for age and additionally stratified on the distribution of socio-professional categories of women residing there. Subjects are interviewed face-to-face using a standardised questionnaire (CAPI) collecting information on reproductive and hormonal factors, tobacco, residential history and a detailed description of occupational lifetime history. Specific questionnaires have been developed concerning jobs and sectors that are frequently considered of particular interest for the study: house cleaning, dry cleaning and laundry, hairdressing, catering and cooking, health, beauty therapist, nail salons. Blood samples and tumours are also collected, to establish a biobank for molecular epidemiology studies. To date 670ca/450co are already included.

**Discussion** The large number of women should allow to uncover occupational exposures more specific of their professional activities. In addition information on many non-occupational risk factors is available, and the study will provide an excellent framework for numerous studies in various fields. Preliminary results on participation rates, biobank, socio-demographic characteristics or number of job periods described will be presented.

## Oral Presentation

### Policy/Impact

#### 0187 DISABILITY AND WORKPLACE HARASSMENT AND DISCRIMINATION AMONG CANADIAN FEDERAL PUBLIC SERVICE EMPLOYEES

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**Purpose** To examine the impact of disability on workplace harassment and discrimination.

**Methods** Cross-sectional data from the 2014 Canadian Public Service Employee Survey was analysed (n=175,742) using logistic regression to investigate the relationship between self-reported disability and workplace harassment and discrimination in the last two years. Age, gender, and ethnicity were included as potential confounders and interaction terms. Additive and multiplicative interactions were examined using linear binomial and logistic regression respectively.

**Results** Disability was significantly associated with increased odds of harassment (odds ratio [OR]=2.80, 95% confidence interval [CI]: 2.68–2.92) and discrimination (OR=4.97, 95% CI: 4.72–5.23) in models adjusted for confounders. A significant positive additive interaction was observed between disability and 1) age in the harassment and discrimination models and 2) ethnicity in the discrimination model. Excess