Paraty, totaling 1024 skills The cases are grouped according to occupational group, diagnoses, productive sector and age group and comparing the incidence and severity between the groups. Only cases of temporary incapacity limited to the maximum period of 2 years were studied.

Results The less educated workers, the primary and the male sector showed an extended period of disability. The main diagnosis of disability was according to ICD-10: lesions (group XIX), diseases of the musculoskeletal system (GROUP XIII), blood disease (GROUP II), circulatory group disease (GROUP IX), diseases of the digestive tract).

Discussion The results demonstrate an effect of productive restructuring in our country with the prevalence of diseases classic professionals with decreased prevalence of chronic degenerative diseases and work – related. Most of the lesions are connected to the means of transport (only 2 out of 258 were typical work accidents). These results require a need for articulation of preventive policies in addition to the Occupational Medicine service and training of occupational health professionals for the recognition and prevention of a new epidemiological picture of Brazilian workers.

1769 OCCUPATIONAL DISEASE AND MORBIDITY MODELLING

[1]Y Samant, [2]HM Gravseth, [3]O Aas, [1]R Ekle, [1]T Strømholm*, [4]V Gigonzac*, [4]I Khireddine-Medouni, [4]E Breuillard, [4]C Bossard, [4]I Guseva Canu, [4]G Santin, [4]L Chérié-Challine, [5]T Bonney*, [5]E Kyeremateng-Amoah, [5]L Forst, [5]L Friedman, [6,7]AC Pesatori, [6]L Angelici, [6]C Favero, [6]L Dioni, [7]C Mensi, [8]C Bareggi, [9]A Palleschi, [6]L Cantone, [7]D Consonni, [7]L Bordini, [2]A Todaro, [6,7]V Bollati. *[1]Norwegian Labour Inspection Authority, Norway; [2]National Institute of Occupational Health, Norway; [3]St. Olav's Hospital, Division of occupational medicine, Norway; [4]Santé Publique France, French Public Health Agency, Direction of Occupational Health, Saint-Maurice, France; [5]University of Illinois at Chicago, School of Public Health, Environmental and Occupational Health Sciences, Chicago, USA; [6]EPIGET Lab – Dept. Clinical Sciences and Community Health, Università degli Studi di Milano, Milan, Italy; [7]Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Occupational Medicine Unit, Milan, Italy; [8]Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Medical Oncology Unit, Milan, Italy; [9]Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Thoracic Surgery Unit, Milan, Italy*

10.1136/oemed-2018-ICOHabstracts.434

Aim of special session To highlight examples and best practice in the area of occupational disease and modelling morbidity.

1769a WORK-RELATED DISEASES AMONG FARMERS IN NORWAY: WHAT DO THE DOCTORS REPORT TO THE LABOUR INSPECTORATE REVEAL, AND WHAT THEY MISS?

[1]Y Samant, [2]HM Gravseth, [3]O Aas, [1]R Ekle, [1]T Strømholm*. *[1]Norwegian Labour Inspection Authority, Norway; [2]National Institute of Occupational Health, Norway; [3]St. Olav's Hospital, Division of occupational medicine, Norway*

10.1136/oemed-2018-ICOHabstracts.435

Introduction Doctors in Norway report work-related diseases to the Labour Inspection Authority as required by the Working Environment Act. These reports make the basis for the labour inspectorates registry for work-related diseases (RAS). The purpose of this study is to highlight the lack of reliable data with regards to work-related diseases among Norwegian farmers which hinders our preventive efforts.

Methods Data as they concern the occupation 'farmers' were extracted from RAS for the period 2005–2017. The data among others included variables pertaining to demographics, occupational exposures, diagnosis, year of reporting, and the type of doctor who reported the disease. We performed descriptive analysis on the extracted data to obtain frequency, and percentage distribution of the data. We plan to calculate incidence rates; however, it has been difficult to find a reliable denominator for such computations.

Result In the period 2005–2017, 616 cases of work-related diseases among farmers were reported. On average 44 reports of work-related disease among farmers were reported to the Labour Inspectorate annually. 95 % of the reported cases were farmers under the age of 67 years. Hearing loss made up about 60% (N=368) of all the cases followed by respiratory diseases that make up 19% (N=116) of all cases. Only a few cases are attributed to other diagnosis groups like skin diseases, musculoskeletal- and psychological disorders.

Discussion The doctors report on work-related diseases among farmer's reveal that hearing loss is still a major challenge. Some of these data are being applied for preventive actions. Having said that, we know from research studies and self-reported data that farmers are exposed to among others dust, gas, pesticides, infectious materials. They work long hours in difficult postures. However, RAS data is missing a large number work-related diseases among the Norwegian farmers which is hindering effective prevention.

1769b SOCIO-DEMOGRAPHIC AND OCCUPATIONAL FACTORS ASSOCIATED WITH SUICIDE AMONG FRENCH FARMERS

V Gigonzac*, I Khireddine-Medouni, E Breuillard, C Bossard, I Guseva Canu, G Santin, L Chérié-Challine. *Santé Publique France, French Public Health Agency, Direction of Occupational Health, Saint-Maurice, France*

10.1136/oemed-2018-ICOHabstracts.436

Introduction An excessive risk of suicide mortality among farmers has been observed internationally and in France. However, only few studies tried to explore this issue in terms of socio-demographic and occupational determinants and analyse whether they act as risk or as protective factors. The objective of this study was to investigate associations between suicide mortality and socio-demographic and occupational characteristics in the population of French self-employed male farmers between 2007 and 2011.

Methods The study population included all French male self-employed farmers. Socio-demographic and occupational characteristics were collected from a compulsory social security system for the workers in the agriculture. Causes of death were obtained from the French National Mortality Database. The associations between socio-demographic and occupational characteristics and suicide mortality were examined using a Poisson multivariate regression.

Results Suicide mortality was associated with age between 45 and 54 years (RR 1.60, 95% CI: 1.24 to 2.06), having an individual farm (RR 1.20, 95% CI: 1.02 to 1.42), a farm area of 20 to 49 hectares (RR 1.47, 95% CI: 1.03 to 2.10) and farming as an exclusive activity (RR 1.66, 95% CI: 1.29 to 2.14). Farming in several French regions was associated with a higher risk of suicide, whereas type of farming was not.

Discussion The results highlighted differences in suicide mortality among French male farmers according to their socio-demographic and occupational characteristics. This study provides a better understanding of the suicide mortality among farmers and should help to orientate actions prevention.

1769c ACUTEOCCUPATIONAL PESTICIDE POISONING IN ILLINOIS 2010–2015: DATA LINKAGE OF HOSPITAL DISCHARGE AND POISON CONTROL CENTER DATABASES

T Bonney*, E Kyeremateng-Amoah, L Forst, L Friedman. *University of Illinois at Chicago, School of Public Health, Environmental and Occupational Health Sciences, Chicago, USA*

10.1136/oemed-2018-ICOHabstracts.437

Introduction Pesticides have a wide application in agriculture, landscaping, pest control services and others, to control pests, weeds, and other organisms that pose a threat to agricultural production and the health of the public. Acute occupational pesticide poisoning is a persisting challenge to these workers, many of whom are vulnerable and suffer adverse health consequences negatively impacting their ability to work. Surveillance is critical to identifying cases, sites, and mechanisms to target interventions.
Methods Cases of acute occupational pesticide poisoning were identified and linked across the Illinois hospital discharge and the poison control center databases from 2010–2015 on the variables; exposure agent, date of admission, age, gender, variable and zip code of residence. Data was analyzed by SAS (v.9.3; Cary, NC).
Results 358 cases of acute occupational pesticide poisoning were identified; 50 cases were overlapping. The majority of cases were from structural, rather than agricultural uses. Most exposures were due to toxic effects of 'unspecified pesticides' such as herbicides, fungicides (60%) and gases, fumes or vapors (36%) per the ICD-9 diagnoses codes. The main route of exposure was by inhalation (40.2%). Males and female exposures were 65% and 33% respectively. Most workers were aged between 20–30 years.
Discussion 66 cases per year is low compared to other agricultural states. Use of multiple data sources in the absence of a robust reporting system can be informative and guide interventions. It is essential that acute occupational pesticide poisoning is adequately captured to estimate its burden and guide interventions for prevention and control. Healthcare providers and data registers must be encouraged to document the work-relatedness since workers can then access workers' compensation insurance and preventive efforts can be better targeted. Data linkage provides a useful method for estimating the incidence, and enhancing the surveillance of acute pesticide poisonings among workers.

1769d COMBINATION OF MIRNAS, MESOTHELIN AND FIBULIN-3 AS POTENTIAL BIOMARKERS IN MALIGNANT PLEURAL MESOTHELIOMA AND ASBESTOS-EXPOSED SUBJECTS

[1,2]AC Pesatori, [1]L Angelici, [1]C Favero, [1]L Dioni, [2]C Mensi, [3]C Bareggi, [4]A Palleschi, [1]L Cantone, [2]D Consonni, [2]L Bordini, [2]A Todaro, [1,2]V Bollati*. *[1]EPIGET Lab – Dept. Clinical Sciences and Community Health, Università degli Studi di Milano, Milan, Italy; [2]Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Occupational Medicine Unit, Milan, Italy; [3]Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Medical Oncology Unit, Milan, Italy; [4]Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Thoracic Surgery Unit, Milan, Italy*

10.1136/oemed-2018-ICOHabstracts.438

Introduction Malignant Pleural Mesothelioma (MPM) is an aggressive cancer mainly caused by asbestos exposure. Due to its long latency and insidious onset, MPM is often diagnosed in advanced stages with poor prognosis. In addition, asbestos is still used in many non-European countries and the incidence of MPM is expected to increase. In this context, the need of reliable diagnostic markers for early MPM diagnosis is of paramount importance. Along with the more frequently studied biological markers (mesothelin, fibulin-3), new emerging biomarkers include miRNA expression in peripheral blood.
Methods We previously investigated 23 MPM patients and 19 subjects with past asbestos exposure (PAE) to examine if a specific miRNA signature in plasmatic extracellular vesicles (EV) might help to discriminate between MPM and PAE (*PLoS One, 2017*). Criteria for enrollment, blood collection, miRNA extraction, screening and validation have been previously described. We found a two miRNA (miR-103a-3p and mir-30-3ep) diagnostic signature that discriminates the two groups with high accuracy (AUC 0.942), high sensitivity (95.5%) and good specificity (80.0%).

We are currently expanding our study population to additionally include 25 MPM cases, 50 subjects with PAE, and 20 subjects with other respiratory diseases. Alongside miRNA expression, plasma mesothelin and fibulin-3 will be also measured.
Results The diagnostic performance (AUC, Sensitivity and Specificity) of the best five miRNAs previously detected in our study will be examined in combination with plasma mesothelin and fibulin-3, taking into account major confounders (e.g. age, gender, BMI and smoking habit).
Conclusions The combination of biological markers belonging to different molecular pathways might help in identifying a panel of biomarkers able to improve the overall diagnostic performance as suggested by Weber et al. (*PLoS One, 2014*), who recently showed an improved AUC of 0.93 when combining mesothelin and miR-103a-3p.

Health Services Research

1046 ANALYSIS AND A PREDICTION MODEL OF PATTERN OF VISITS TO MEDICAL INSTITUTIONS AMONG WORKING INDIVIDUALS WITH LIFESTYLE-RELATED DISEASES IN JAPAN

[1,2]Go Muto*, [3]Atsushi Goto, [4]Mitsuhiko Noda, [5]Motoki Endo, [6]Hiroshi Fukuda, [3]Ryoko Katagiri, [1]Kazuhito Yokoyama. *[1]Department of Epidemiology and Environmental Health, Juntendo University, Tokyo, Japan; [2]Harvard University, T. H. Chan School of Public Health, Boston, USA; [3]Metabolic Epidemiology Section, Division of Epidemiology, Centre for Public Health Sciences, National Cancer Centre, Tokyo, Japan; [4]Department of Endocrinology and Diabetes, Saitama Medical University, Saitama, Japan; [5]Department of Public health, Tokyo Womens Medical University, Tokyo, Japan; [6]Department of General Medicine, Graduate school of Medicine, Juntendo University, Tokyo, Japan*

10.1136/oemed-2018-ICOHabstracts.439

Introduction We analysed, developed, and evaluated a prediction model of the pattern of visits to medical institutions after annual health check-ups among Japanese individuals with hypertension (HT), diabetes mellitus (DM), or dyslipidemia (DL).
Methods Using claims and health check-up data maintained by the Japan Medical Data Centre from 2008 to 2016, we identified 5 33 955 individuals (20 to 74 years old) with HT, DM, or DL without claim data for the corresponding diseases for the 4 months prior to the health checkups. We calculated overall and disease-specific cumulative non-visit rates after health check-ups using Kaplan-Meier estimators. The prediction model was derived from randomly collected 1 17 671