

S-78 INCIDENCE OF COVID-19 BY SECTOR

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Introduction The workplace is among the main activities for a large proportion of the population, and consequently a source of potential Sars-Cov2 infection. In this study we investigated longitudinally the incidence of COVID-19 by sector

Methods The 14-day incidence of confirmed COVID-19 cases per NACE-BEL code is calculated cross-sectionally in periods immediately preceding the Belgian soft lock-down of October 19, 2020, and is evaluated longitudinally by a Gaussian-Gaussian modelling two-stage approach. Additionally, we are analysing contact tracing data for companies affiliated with occupational health service IDEWE.

Results The peak of COVID-19 14-day incidence was reached in the period October 20-November 2, 2020 and was considerably higher than average in human health activities, residential care activities, fitness facilities, human resource provision, hairdressing and other beauty treatment and some public service activities. During the course of the study, we observed large outbreaks in processing, production and preserving of meat, poultry. Similarly, higher incidences was shown in some manufacturing sectors that are not able to telework (manufacturing of metals and textile). Employees in wholesale and retail daily confronted with multiple close contacts, resulting in higher incidences of COVID-19. Finally, the incidence of COVID-19 in the non-medical contact professions remained in general above the working population incidence. Finally, it is encouraging that 3 to 4 weeks after vaccination that the 14-day incidences in health care workers, in- and out-hospital, and residential care in elderly employees are the lowest of all sectors,

Conclusion This analysis can help us to better understand causes of increased infection rates and it can offer us ways to reduce infections without jeopardizing the continuity of these sectors/companies for the benefit of all. These data can also support the epidemiological evidence for the recognition of COVID-19 as occupational disease.

S-80 OUTBREAK OF INVASIVE PNEUMOCOCCAL DISEASE AMONG WORKERS AT A NORWEGIAN SHIPYARD.

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Introduction/Objective Although exposure to metal fumes is known to increase the risk of pneumococcal disease, published outbreaks has been quite rare. However, during nine weeks in 2019, 20 confirmed and probable cases of disease were identified among 1.900 shipyard workers at one shipyard in Norway.

Method/Results The local hospitals initially detected the outbreak. The affected workers were of different European nationalities, most of them employed by different subcontractors. Sixteen were hospitalized. Isolates were available for serotyping for 17 cases, all isolates belonged to serotype 4. The same strain was found in a similar outbreak in Northern Ireland in 2015. Onsite inspection found a crowded shipyard in the process of finishing a new cruise ship. Many tasks

were carried out in the same workspace; like welding, cutting, painting, and finishing on surfaces. The labour inspectorate ordered immediate occupational hygiene measures with short notification. Regulations on tobacco smoking, air quality improvements, and the use of personal protective equipment were all implemented. There were also given advice on measures for improving general hygiene at the yard. The National Institute of Public Health recommended vaccination for the involved workers. Around 1.500 of the 1.900 workers present at the shipyard were vaccinated by the shipyard's occupational health services. After onsite occupational hygiene measures and vaccination, no new cases were identified. There are published information on a similar outbreak in Finland later the same year, and also in France early in 2020.

Conclusion This outbreak indicates that the occupational risk of severe pneumococcal disease is multifactorial, and that metal fume exposure not only is limited to the occupational category welders. In Norway, vaccination with the pneumococcal is recommended for welders after risk assessment. Recommendation of pneumococcal vaccination to broader occupational groups exposed to metal fumes should be considered, and the working and living conditions.

S-81 INFECTIOUS DISEASE RISKS ASSOCIATED WITH OCCUPATIONAL EXPOSURE AMONG NON-HEALTHCARE WORKERS : A SYSTEMATIC REVIEW OF THE LITERATURE

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Objective The purpose of this systematic review is to provide an overview of the published evidence on the role of infectious diseases in occupational health, focusing on occupations other than health care workers. We started from a key systematic review from 2009, extending it up to November 2019.

Methods The subqueries of the review were translated into Embase/Medline/Cochrane queries, and the adequacy of these translations was checked. Studies were screened in two rounds. In the first, title and abstract were compared to the inclusion criteria. These were based on the previous review, adding 'Immune-related and respiratory conditions after exposure to bioaerosols'. In the second round, title, abstract and full text were assessed. Quality assessment was applied using published guidelines: SIGN for case-control and cohort studies, STROBE for cross-sectional studies, ORION for outbreak reports and CARE for case series.

Results 3353 unique results were yielded; 214 eligible studies were included. 44 occupations with in total 89 infectious disease exposures were found, some of which were overlapping between occupations. The occupations most frequently reported were armed forces (n=32 pathogens), garbage/recycling collectors (n=13), livestock/dairy producers (n=12), female sex workers (n=9); and forestry and wastewater workers (n=8). Exposure to bioaerosols was mentioned in various occupations: wastewater/garbage workers, biotechnology workers, poultry/abattoir workers, construction workers, public transport workers, greenhouse workers, hotel workers, fire-fighters, services for homeless, cash collectors, television crew, compost/greenhouse workers, grain and animal feed production.