Introduction The mining sector that has driven the South African economy for over 100 years left a legacy of occupational lung diseases in mineworkers, their families and communities in Southern Africa not comparable with any other working populations and compounded by the migrant labour system. The 33 000 mineworkers compensated for silicosis, 109 000 for tuberculosis and 14 000 for asbestos-related disease amongst other occupational lung diseases over the past 30 years is thought to be only the tip of the iceberg. This study aimed to document progress towards ameliorating this situation and identifying residual challenges.

Methods A review was conducted of relevant policy and legislation and epidemiological studies showing the size, shape and scope of occupational lung diseases and access of current and ex-mineworkers to prevention interventions, health services and compensation. This was supplemented by 12 semi-structured interviews and data analysis.

Result The approach to the occupational lung disease challenges within the Southern African mining sector included the development of a database of 600 000 files, outreach services including fixed and mobile health units and financial services, tracking and tracing ex-mineworkers using geospatial mapping tools and increased compensation payments. Multi-stakeholder participation involving governments in the Southern Africa region, trade unions, the Chamber of Mines, ex-mineworker associations and multi-lateral agencies assisted with financial, infrastructural and technical resources.

Discussion The challenges in the post-apartheid era have meant that vast numbers of mineworkers who have fallen ill or became disabled as they worked to produce South Africa's mineral wealth were not receiving health services and compensation. Progress is now being made to address the problems identified. Despite these efforts there are barriers to access services including socio-cultural factors, distance and lack of knowledge amongst ex-mineworkers about occupational lung diseases and compensation.

98 LIFE EXPECTANCY AT AN OPEN PIT COAL MINE IN COLOMBIA

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10.1136/oemed-2018-ICOHabstracts.717

Introduction Several studies have shown that life expectancy of miners in underground mines is greatly reduced. The complex working conditions to which they are subjected and the associated social conditions explain this reduction. However, few studies have come forward to show whether life expectancy is also reduced in miners working in open pit mining. This study aims to determine the life expectancy of miners who have worked in an open pit coal mine in Colombia.

Methods 15 153 people who worked at the Mine from 1982 to 2015 were included in the study: 6133 were active and 9040 had retired. The applied statistical methods estimate the survival function based on mortality tables and the Kaplan-Meier estimator. It also contains inference methods and an adjusted Cox regression model (1972) to determine some explanatory factors for mortality at La Mina.

Result Compared with the risk of dying by means of a log-rank test among those who have worked in the mine against the risk of people from other parts in the country and from the area of influence of the mine, it has been found that they are significantly different (p-val <0.001). The direction of this difference indicates that life expectancy for workers who have worked in this mine is greater than that of their zone of influence and that of the country.

Discussion The possible explanations for the higher life expectancy in these workers may be associated with the living conditions that they have access to due to high salary levels and the occupational control measures established in the company. The longevity characteristic of adult inhabitants of the region where this mine operates also contributes to higher life expectancy found in these workers.

Musculoskeletal Disorders

1045 MUSCULOSKELETAL DISORDERS AMONG NURSES: EPIDEMIOLOGICAL AND SEMI-QUANTITATIVE STUDY

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10.1136/oemed-2018-ICOHabstracts.718

Introduction This study aimed to identify biomechanical risk factors of musculoskeletal disorders (MSD) among nurses.

Methods A cross sectional survey-structured by the Nordic MSDs questionnaire- was conducted through a representative sample of the 1179 paramedics providing nursing care in two university hospital in Tunisia (n=301). A representative work period in each department was identified. A multidisciplinary working group, according to estimated usual physical load, divided these departments into four homogeneous groups. Semi quantitative biomechanical constraints based on 56 direct observations with encoding software and over 2 hours each one was conducted, in accordance with the homogeneous exposure group sampling table. Physical load scores were elaborated according to the posture adopted, gestures performed and characteristic of handling (type, assistance, weight and autonomy of the patient) and assessed on the Chamoux physical strain scale.

Results The prevalence of the back MSDs was equal to 70.3%. Variable prevalence of the upper limbs MSDs was noted according to the anatomical area (43.68% for neck, 40.27% for shoulders, 15.01% for elbows and 29.35% for wrists). Observational study concluded that handling activity, as well as type and duration of constraining postures, were variable in function of the department of assignment. According to Chamoux scale the average physical load score was variable from 7.76 in departments with 'heavy physical requirement' to 7.25 in those associated to 'low' physical requirement. Multivariate analysis showed a significant difference concerning the thrust and the traction of light and heavy load, the activity of handling and the characteristics of the handled patients. It also concluded that paramedics affected to