

## TITLE: SURVEILLANCE OF OCCUPATIONAL LUNG DISEASES AT AUTOPSY IN SOUTH AFRICAN MINERS 2021

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### **Abstract:**

#### Introduction:

The Pathology Division at the National Institute for Occupation Health (NIOH) makes provision for the examination of the cardiorespiratory organs of deceased miners and ex-miners, who were employed in controlled mines and works in South Africa as per the Occupational Diseases in Mines and Works Act (ODMWA), 1973 (Act 78 of 1973).

The data collected provides information, disease rates and trends associated with the demographic characteristics, occupational histories and major pathological findings of the deceased miners at autopsy in 2021.

#### Methods:

In order to diagnose compensable occupational lung diseases in the cardiorespiratory organs of deceased miners and ex-miners, these organs undergo macroscopic examination and sampling. The representative sections taken undergo several laboratory procedures and microscopic examination to provide final pathologic diagnoses. These records are then used for surveillance, research and to provide detailed individual reports which are sent to the Medial Bureau for Occupational Diseases (MBOD) for compensable disease certification.

#### Results and discussion:

In total, 546 cardiorespiratory organs from deceased miners and ex-miners were examined in 2021 and all these were received within South Africa. The autopsies were from different demographic groups with the mean age of 51.6 years. The Gauteng (28.2%) province sent the most cases. Majority of the miners (n=337; 61.7%) had worked in the gold mining industry. The most frequent I occupational lung diseases that were diagnosed at autopsy were emphysema (n=209; 38.3%), pulmonary tuberculosis (PTB) (n=75; 13.7%) and silicosis (n=105; 19.2%).

### Conclusion:

In South Africa, autopsy examination of miners and/or ex-miners is a statutory requirement, as per Act 78 of 1993. The prevalence of occupational lung diseases (including PTB and silicosis) in miners still remains high. This warrants compensation to families of the deceased miners, as well as the documentation and reporting of the findings for surveillance and research purposes. This may play a significant role in the implementation of better control measures leading to the abatement of respiratory diseases in the mining community.