



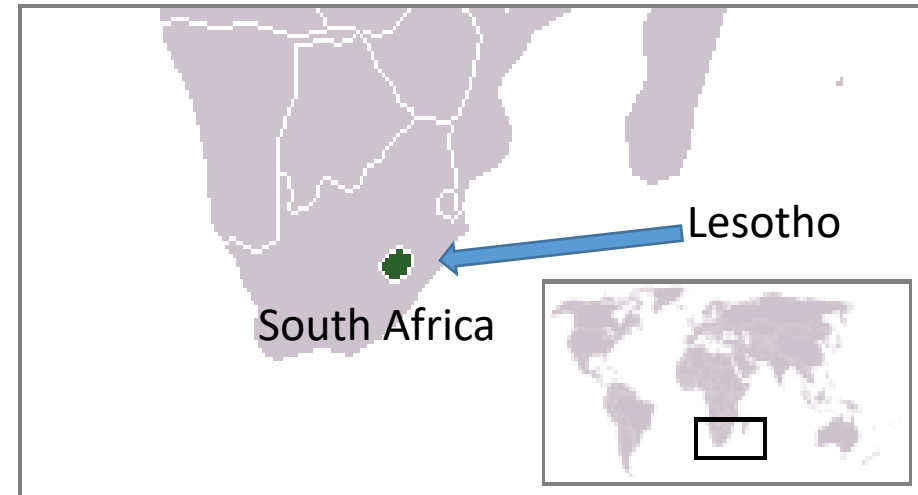
# The fourth plague? Intersection of silicosis, tuberculosis, HIV and COVID-19 among migrant goldminers from Lesotho

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## Lesotho

- Formerly Basotholand, product of colonial history in which Sotho-speaking people under King Moshoeshoe I sought British colonial protection in the 19<sup>th</sup> C. after encroachment by Boer trekkers



- Low-income country of 2.2 million encircled by South Africa
- Has supplied the SA goldmines with migrant workers for 120 years.

## Lesotho (cont.)

- Lesotho has highest annual tuberculosis incidence globally: 611 / 100 000.
- HIV prevalence: 23.6%.
- Supplied 25% of the South African gold mining workforce in 1970s.
- Estimated 95 000 living former gold miners currently in Lesotho.

## Objective of this presentation

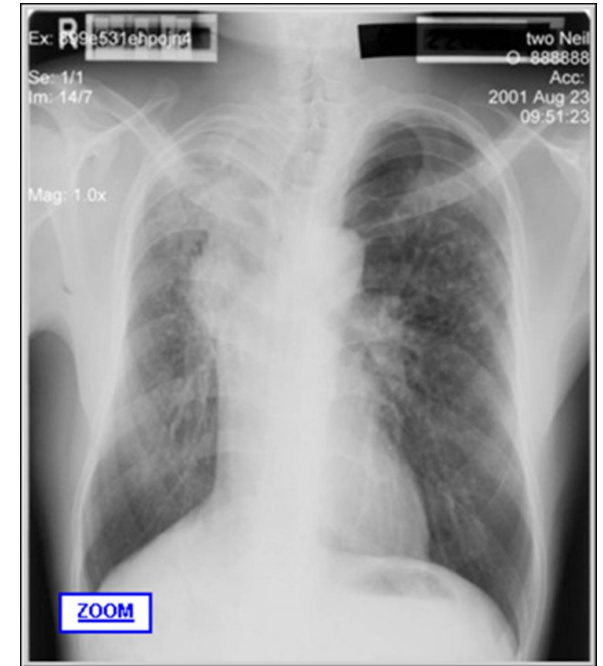
To explore the implications of COVID-19 for this large ex-goldminer population.

1. Disease impact
2. Impact on surveillance for treatment and compensation

# Burden of mining and migrancy related disease: silicosis, TB, HIV

Recent analysis\* of the records of 2 678 ex-goldminers, *median age 63 yrs*, examined in Lesotho between 2017 and 2019 found a high disease burden:

- Silicosis (ILO > 1/0): 42.5%
- CXR consistent with tuberculosis (previous or current): 60.9%
- Active tuberculosis (on treatment or newly diagnosed): 6.8%
- Silicotuberculosis: 25.7%
- HIV: 30.7%
- Hypoxaemia (< 90% saturation): 3%



• \*Maboso et al. 2020. *Occup Health Southern Africa*. 2020; 26(4):145-152.

# Covid-19 mortality risk factors – South Africa

Adjusted hazard ratios COVID-19 deaths (March 1 to June 9, 2020), adult public sector patients, Western Cape Province, with a health care visit in the previous 3 years (n=3,460,932)

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	<b>Hazard Ratio</b>	<b>95% CI</b>
Age 20-39 yrs	1.00	
40-49	2.83	1.92-4.15
50-59	7.78	5.51-10.98
60-69	11.54	8.11-16.42
Diabetes (controlled)	5.37	3.96-7.27
Hypertension	1.31	1.09-1.57
Previous TB	1.51	1.18-1.93
Current TB	2.70	1.81-4.04
HIV positive	2.14	1.70-2.70



# Covid-19 impact on ex-miners

## Protective factors for transmission to ex-miners?

- Isolated nature of many miner communities. (Mountainous country entirely > 1 400 m. above sea level)
- Limited back and forth cycling of migrant labour
  - Shrinking SA gold mining industry
  - Decline in foreign recruitment
  - Staggered return to work.
- Healthy worker effect? (19 Oct, in *active* miners, industry 3.9%; case fatality ratio = 1.1% (190 deaths )

<https://www.mineralscouncil.org.za/minerals-council-position-on-covid-19>



## Covid-19 impact (cont.)

### Undercount

- By Oct 17, 2020, 1 833 COVID-19 cases and 42 deaths reported in Lesotho, almost certainly an undercount owing to low testing rates and remoteness.
  - *Using SA as a benchmark*, by 22 Sep, 2020, adjacent Free State Province: 123.9 /100 000 *excess deaths* compared to official COVID-19 death rate of 28.8/100 000 – i.e. 77% of the excess death rate “unexplained”.
- *Will be difficult to get an accurate picture of impact of COVID-19 in Lesotho.*





## Screening and surveillance

- Before lockdown in March 2020, there are were large-scale initiatives to examine former miners for treatment and compensation in progress.
- Tshiamiso Trust (following class action suit for silicosis and TB for US\$ 300 million ) and in parallel, a century old statutory system of workers' compensation for miners.
- Estimates of 600 00 -800 000 living former gold miners throughout Southern Africa, but actual number is unknown.
- Elective medical contact and routine spirometry were suspended because of the COVID-19 infection risk – *has now become urgent to resume examinations.*



# Safe examination?

## Infection prevention and control

Transport, waiting areas, examination rooms, sputum collection essential for TB.

## Alternatives to spirometry?

E.g. 6-minute walk test not feasible because of need to categorise impairment on statutory or Trust Deed criteria.

## Spirometry\*:

- Outdoors
- Shielding of testers
- Disposable filters
- Sterilisation between candidates
- Relaxation of full inspiratory loop requirement

*Photos courtesy Dr. Jim te Water Naude, 2020*



## Conclusions

- Elderly ex-miners need the same protection against COVID-19 as other high risk subpopulations
- However, the need to screen ex-miners in Lesotho for silicosis, TB and HIV is a public health and social justice imperative given the economic plight of this neglected population.
- Mechanisms for safe examination need to be found, but some risk trade-off is likely to remain.
- This population has been ill served by history – their plight needs to be kept in the public eye and co-ordinated cross-border and international support mobilized.
- Covid -19 is a threat but also an opportunity due to high level of mobilisation of the health care sector and public awareness of injustices “uncovered” by the epidemic.





Noebejare Tau and his wife, Matelile, Lesotho, 2015.  
28 years on the gold mines. Has silicosis but unsure  
whether he ever received compensation.

*Copyright and information: Thom Pierce*  
*<https://www.lensculture.com/articles/thom-pierce-the-price-of-gold>*

Sekhobe Letsie, Lesotho, 2015.

38 years on the South African  
gold mines. Developed silicosis.

