

Conclusion Public awareness is necessary to educate the public the dangers of heavy metals. The soil and water is contaminated and requires a remediation and rehabilitation plans to improve the condition of a public open space in Davidsonville.

104

MINING, ENVIRONMENTAL POLLUTION AND PUBLIC HEALTH CHALLENGES IN JOHANNESBURG

Sue Taylor,¹ Emmanuel Alusani Maphorogo². ¹*Afromont, Centre for Environmental Studies, University of Pretoria, Pretoria, South Africa;* ²*Operations, Johannesburg City Parks and Zoo, Johannesburg, South Africa*

10.1136/bmjopen-2015-forum2015abstracts.104

Background The study was based in Johannesburg, South Africa. Mining activities has left many unrehabilitated mine dumps around the city. These mine dumps have elevated levels of heavy metals, and the heavy metals poses serious health impacts to the public. Due to the shortage of land for residential purposes, housing dwellings are developed adjacent these mine dumps.

Objectives To investigate the impacts of mining on public health, as well as environmental pollution in Davidsonville.

To identify visible risks that the public are exposed to by living adjacent to mine dumps.

To suggest possible interventions to mitigate and improve public health around urban settlement on former mining land.

Methods Data was collected by means of questionnaires to understand the awareness of mine pollution by the community in Davidsonville. Soil and water samples were tested in a laboratory for contamination by heavy metals. Air quality monitors were installed in Davidsonville to monitor dust pollution.

Result The public did not understand the dangers of heavy metal pollution on their health. The soil is contaminated with heavy metals and low pH (pH 3.04). Water samples also showed contamination by electro-conductivity of 473.0 mS/m and low pH (pH 3.24). Air quality data will be available end of May 2015. A risk assessment was done to address the contamination.