

SAFETY AND HEALTH INDUSTRY PERFORMANCE REVIEW

The Minerals Council’s Strategic Goal 4 and Strategic Objective 14 seek to demonstrate progress on occupational health and safety by accelerating the industry’s journey to zero harm.

Safety performance

As of the time of publication, the DMRE had not officially released the 2020 occupational health and safety statistics. The 2020 industry safety performance statistics in this report are therefore provisional.

Up to 14 December 2020, there were 58 fatalities reported compared to 51 fatalities at the end of 2019. This marks a provisional increase of 12% in the number of fatalities year-on-year. While it is not possible to calculate the fatality rates until the safety data is finalised, it is estimated to be worse than 2019 as there were significantly less people at work in 2020 due to COVID-19 restrictions. The impact that the pandemic may have had on safety performance will be examined in detail in 2021.

Safety performance by commodity

The gold sector recorded 25 fatalities compared to 18 in 2019 (39% regression) and the ‘other’ category of mines’ fatalities increased from six in 2019 to seven in 2020 (17% regression). The platinum sector is the only sector that recorded a decrease of 16% (16 fatalities in 2020 compared to 19 in 2019). The coal

sector recorded a 67% regression (10 fatalities in 2020 compared to six in 2019). Gold and platinum mines accounted for 71% of the fatalities reported in 2020. The gold sector contributed to 43% of fatalities reported in 2020.

Safety performance by quarter

There were more fatalities (18) reported in the fourth quarter of 2020, confirming challenges associated with the end of the year. The last quarter of 2019 was similarly challenging. It is therefore important that vigilance is heightened during this period. 14 fatalities were reported in the first quarter, 11 fatalities in the second quarter, and 15 fatalities in the third quarter of 2021.

Causes of fatalities

The industry safety performance is still plagued by the challenge of fall of ground (FoG), transport and general accidents. 21 of the 58 fatalities (35%) reported in 2020 were caused by FoG, eight by transport and five from the general type of accidents. Miscellaneous causes of fatalities increased, with seven reported, including employees collapsing in the workplace due to breathing difficulties.

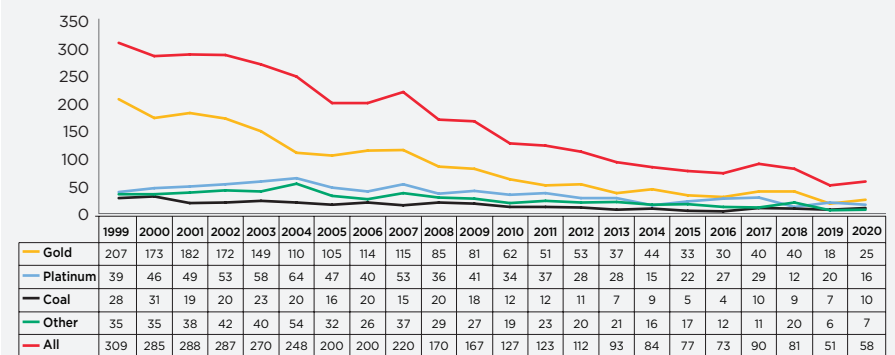
In the last four years, FoG fatalities have decreased with 33 in 2017, 22 in

2018, 20 in 2019 and 21 in 2020. This suggests the industry has managed to reduce rock-burst related fatalities since the spike in seismic events in 2017 that saw deep-level gold mines recording 14 rock-burst related fatalities. There were 12 rock-burst fatalities in 2017, seven in 2018, six in 2019 and four in 2020. Industry initiatives focused on in-stope pre-conditioning appear to have paid off in the prevention and management of rock-burst related accidents. The instruction issued by the Council for Geoscience (CGS) in April 2020 for the reporting of seismicity seems to have heightened attention to the monitoring of seismicity.

Rock-fall (gravity-induced FoG) related fatalities have increased over the past three years. There were 15 rock-fall fatalities reported in 2018, 14 in 2019 and 17 in 2020. While the adoption of the leading practices has enabled the industry to reduce FoG related fatalities, the flat trend of the last three years reveals that a step change is needed to effectively manage FoG related fatalities.

FoG fatalities are concentrated in gold and platinum mines using conventional mining methods; rock-burst accidents are prevalent in deep-level gold mining.

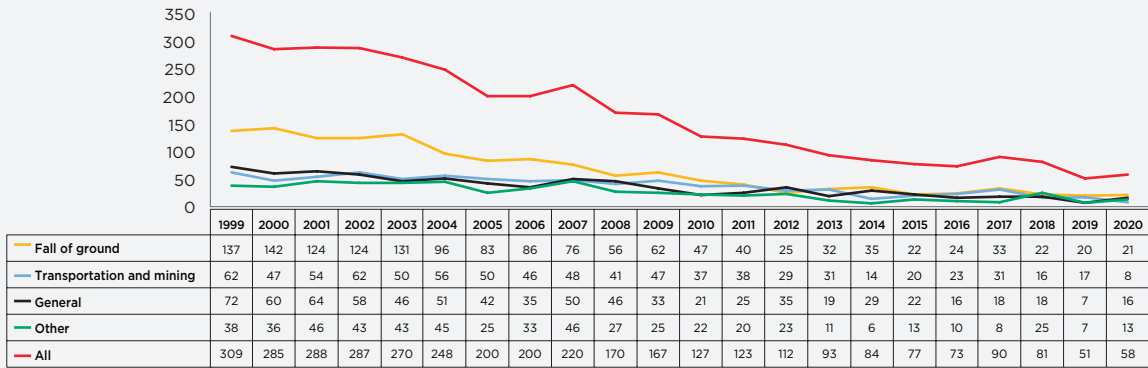
Mining fatalities by commodity: 1999 - 2020



Source: Department of Mineral Resources and Energy

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Causes of fatalities: 1999 - 2020



Source: Department of Mineral Resources and Energy

Injuries

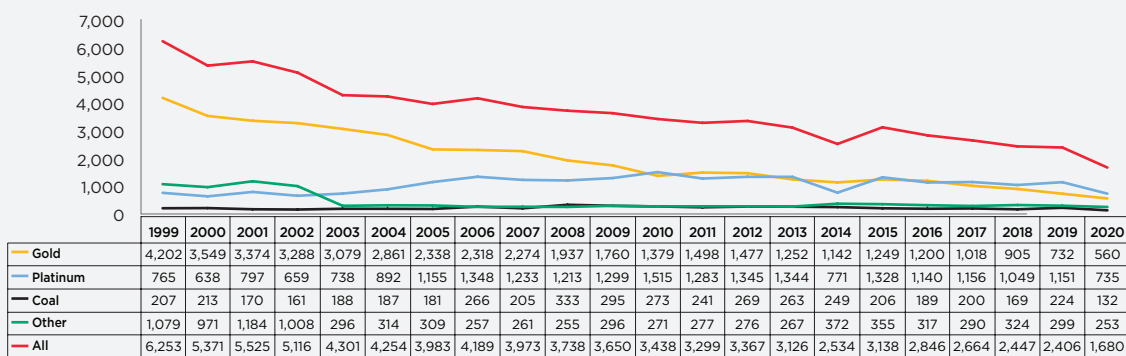
By 14 December 2020, the industry recorded a 30% decrease in injuries from 2,414 in 2019 to 1,680 in 2020. This reduction is the highest improvement recorded in the last five years, above the annual milestone reduction target of 20%. The number of injuries in the gold sector decreased from 755 in 2019 to 560 in 2020 (26% reduction), the coal sector injuries decreased from 224 in 2019 to

132 in 2020 (41% reduction) and platinum injuries decreased from 1,130 in 2019 to 735 in 2020 (35% reduction).

The 'other' commodities is the only sector that did not reduce the number of injuries below the milestone reduction target of 20% with 253 injuries reported in 2020 compared to 305 injuries reported in 2019 (17% reduction).

Injuries classified under 'general' were the largest contributor with 929 (55%) of the overall number of injuries reported. The second largest contributor was transport at 299 (18%) and FoG at 282 (17%). Much more work is required to reduce general injuries to ensure continued improvement above the annual milestone reduction target of 20%.

Injuries by commodity: 1999-2020



Source: Department of Mineral Resources and Energy

SAFETY AND HEALTH INDUSTRY PERFORMANCE REVIEW CONTINUED

National Day of Health and Safety in Mining 2020 with a focus on COVID-19

Khumbul’ekhaya, the Nguni word for “remember home”, is a health and safety strategy developed to drive and sustain the mining industry’s pursuit of zero harm. The emphasis on “home” directly acknowledges that fatalities have the greatest impact on loved ones at home and encourages mineworkers and their managers to bear these loved ones in mind as they go about their day-to-day tasks.

In July 2020, the third annual National Day of Health and Safety in Mining was held virtually under the Khumbul’ekhaya health and safety strategy banner to demonstrate and support industry’s recommitment to the shared imperative of zero harm. Every year, the National Day of Health and Safety calls on member companies to devote a day to renew management and employees’ focus on health and safety. In 2020, the commemoration was focused on reinforcing behaviour change – at home and at work – in the face of COVID-19.

Occupational safety milestones performance

Since 1994, the mining industry has maintained a gradual reduction in fatalities. During the 2014 Mine Health and Safety Council (MHSC) Summit, all stakeholders agreed that the industry should accelerate the elimination of fatalities. Although the industry has not achieved the aspirational target of a 20% reduction in fatalities, it has been able to perform at levels that are comparable to international benchmarks. The industry has also experienced a gradual decline in the number of serious injuries in the last five years.

In 2020, all commodities reduced serious injuries with only ‘other’ types of commodities reducing serious injuries below the 20% annual milestone reduction target. Overall, the industry’s performance – when

measured against the tough milestones set in 2014 – is largely mixed. However, it is evident that the trends are headed in the right direction and that, by continuing to collectively to push additional efforts collectively, the industry can meet all the milestones.

Virtual tripartite engagement: working together

In August 2020, the Minerals Council hosted the Khumbul’ekhaya virtual tripartite engagement. The purpose was to strengthen collaboration in health and safety, review the progress of the Khumbul’ekhaya programme, plan for the sustainability of the strategy within the constraints of the COVID-19 pandemic, and to discuss observations openly and recommendations amongst stakeholders. This engagement resulted in several actions being identified, including:

- Strategies to deal with gender-based violence
- Resolution for redundancy during COVID-19
- Investigation into wearing of masks over long periods
- Investigation of social distancing in cages
- Focus on mining communities
- Protection of vulnerable employees
- Rapid recovery of the economy
- Attention to the wellness of employees

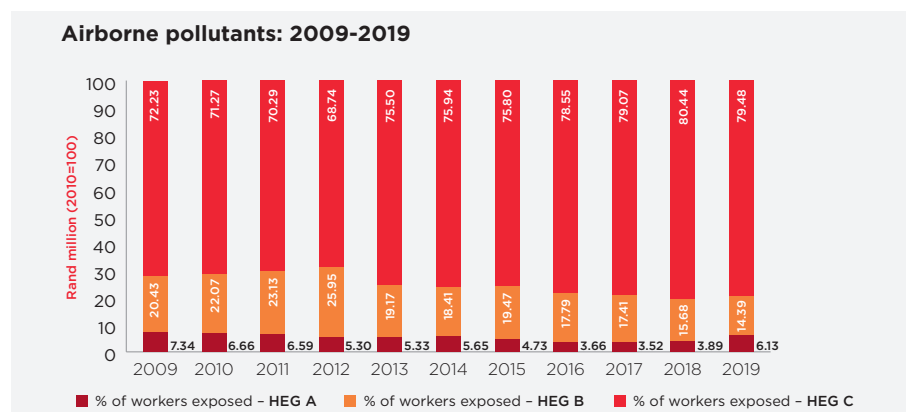
Health performance Introduction

The goal of the Health Department is to achieve zero harm from occupational health exposures and to improve the general health of employees in the industry. This performance update covers performance on milestones/targets set by the MHSC as well as those the Minerals Council has set for itself.

This health report draws on data published by the DMRE for 2019 as well as 2019 data from the Minerals Council reporting system. It is still not possible to report on health data for 2020 as some reports, particularly hygiene reports, are only concluded 60 days after the end of the Minerals Council reporting period.

Airborne pollutant exposures

The percentage of employees in the homogeneous exposure group (HEG) A in relation to the occupational exposure limit (OEL) has not improved since 2015, with 4.73% to 6.13% of employees in HEG A between 2015 to 2019 (see graph below). The significant increase in overexposure is particularly noted in the following commodities: gold increased from 7.25% in 2018 to 11.83% in 2019, coal increased from 5.45% in 2018 to 12.32% in 2019, iron ore increased from 2.79% in 2018 to 13.52% in 2019 and copper increased from 0.00% in 2018 to 5.02% in 2019.



Source: Department of Mineral Resources and Energy

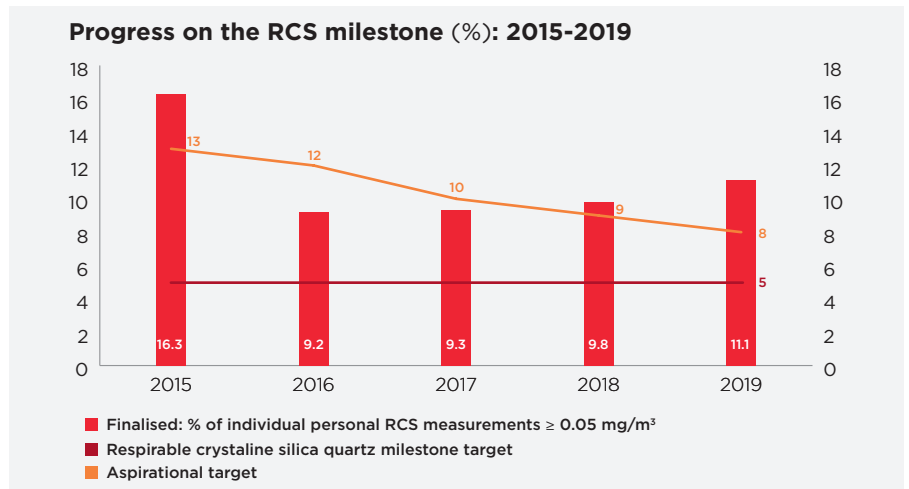
- HEG A – exposures ≥ the OEL or mixtures of exposures ≥ 1
- HEG B – exposures ≥ 50% of the OEL and < OEL or mixtures of exposures of ≥ 0.5 and < 1
- HEG C – exposures ≥ 10% of the OEL and < 50% of the OEL or mixtures of exposures of ≥ 0.1 and < 0.5

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Respirable crystalline silica quartz (RCS) milestone:

By December 2024, 95% of all exposure measurement results will be below the milestone level of respirable crystalline silica of 0.05mg/m³.

While the RCS performance by Minerals Council members in 2015 was well within the target of 12% from 2016 to 2019, the industry regressed and did not meet the aspirational targets. At the current trajectory, the industry needs to redouble its efforts to reduce RCS dust exposure further in order to meet the RCS milestone.

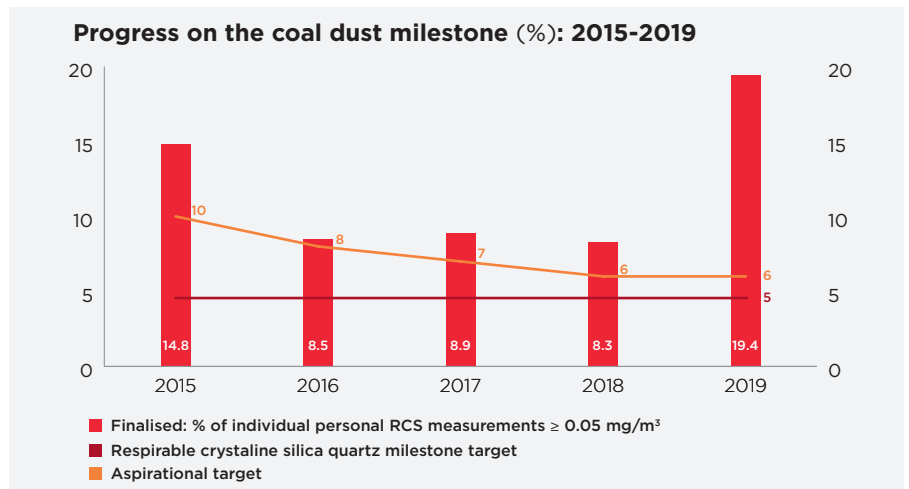


Source: Minerals Council South Africa

Coal dust milestone:

By December 2024, 95% of all exposure measurement results will be below the milestone level of coal dust respirable particulate of 1.5mg/m³.

This milestone also showed a deteriorating performance from 8.5% in 2016 to 19.5% in 2019, both of which are off the target to reach the milestone in 2024. As indicated in the graph alongside, the aspirational target in 2019 for coal dust was 6% and several companies did not meet this target. The industry is not doing well in its drive to meet the milestone target for respirable coal dust.

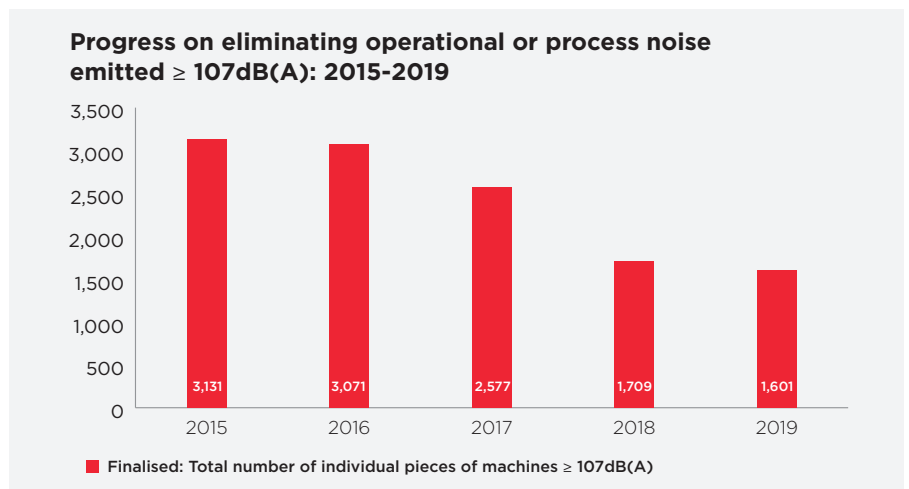


Source: Minerals Council South Africa

Noise induced hearing loss (NIHL) milestone:

By December 2024, the total operational or process noise emitted by any equipment must not exceed a milestone sound pressure level of 107dB(A).

Much progress has been made in reducing the number of machines emitting more than 107dB(A), with a 51% decrease from 2015 to 2019, as indicated in the graph alongside. There is; however, an increase in employee overexposure to excessive noise in the gold industry from 0.02% in 2018 to 1.34% in 2019, chrome from 0.02% in 2018 to 0.12% in 2019, and PGMs from 0.1% in 2018 to 0.75% in 2019. Most non-compliant machines were in the platinum mining sector.



Source: Minerals Council South Africa

SAFETY AND HEALTH INDUSTRY PERFORMANCE REVIEW CONTINUED

Compliance with reporting requirements

Member companies committed to finalising and submitting 100% of health reports (quarterly and annually) on the Minerals Council Health Information Management System. As shown in the table below, reporting declined in 2019 to 80.6% of reports submitted.

Pneumoconiosis milestone:

Using present diagnostic techniques, no new cases of silicosis/coal worker’s pneumoconiosis will occur among previously unexposed individuals (new people entering the mining industry in 2009).

No new cases of pneumoconiosis have been reported on the Minerals Council Health Information Management System. The DMRE; however, reported in March 2019 that three new cases of silicosis had been diagnosed. New cases were reported for the first time in 2018 and the DMRE undertook to investigate these, but no report has been submitted yet.

DMRE statistics indicate the number of employees diagnosed with silicosis has been reducing consistently while, as shown in the table alongside, cases of coal workers’ pneumoconiosis have not shown a reduction.

Noise induced hearing loss (NIHL) milestone:

By December 2016, no employee’s standard threshold shift (STS) will exceed 25dB from the baseline when averaged at 2000, 3000 and 4000 HZ in one or both ears.

Although a few people with an STS shift of more than 25dB were diagnosed in 2018 and 2019, none met the criteria for NIHL diagnosis. Companies have been provided with a guidance note on how STS cases should be reported going forward.

Compliance in reporting on milestones: 2018-2019

Activity	Milestone	Industry performance 2018	Industry performance 2019
Compliance to reporting milestones	100% reports should be finalised and submitted	92.0%	80.6%

Source: Minerals Council South Africa

Cases of coal worker’s pneumoconiosis: 2016-2019

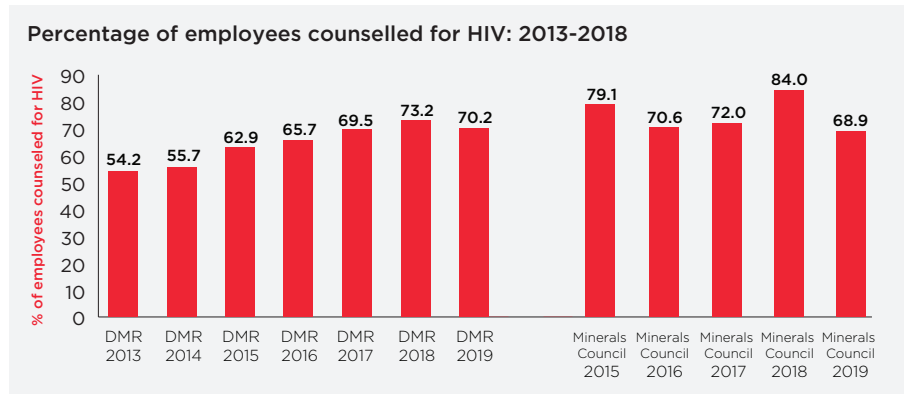
Coal worker’s pneumoconiosis reported to the DMRE			
2016	2017	2018	2019
58	66	27	47

Source: Department of Mineral Resources and Energy

HIV programme milestone:

100% of employees should be offered HIV counselling and testing annually with all eligible employees linked to an antiretroviral therapy programme as per the National Strategic Plan.

As shown in the graph alongside, the performance of the industry on counselling for HIV declined drastically in 2019 to 68.9% from 84.0% in 2018. This is concerning considering that COVID-19 was not a factor.



Sources: Department of Mineral Resources and Energy, Minerals Council South Africa



Harmony - Tshepong

SAFETY AND HEALTH INDUSTRY PERFORMANCE REVIEW CONTINUED

Tuberculosis (TB) screening

The Masoyise Health Programme target is to screen 100% of employees in the industry for TB every year. The graph alongside shows that from 2016 to 2019 the number of screenings has remained constant at around 90%, below the 100% target.

TB incidence milestone:

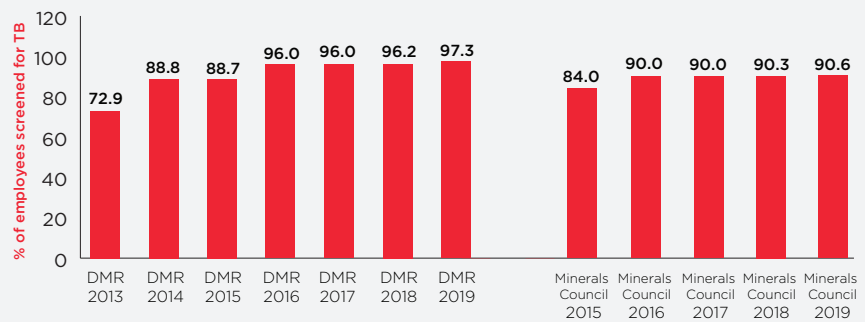
By December 2024, the TB incidence rate should be at or below the national TB incidence rate.

Industry TB incidence in the graph alongside shows a consistent decline, which is encouraging. At the current rate, the industry might achieve the target of being at or alongside the South African TB incidence.

Non-communicable diseases

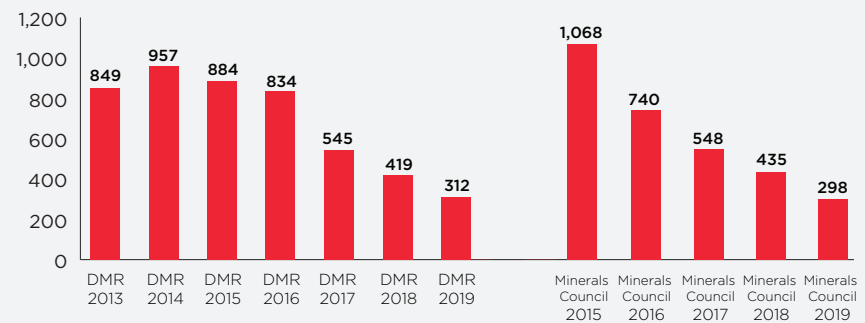
The Masoyise Health Programme target is for companies to screen 100% of employees for hypertension and diabetes annually. Reporting on non-communicable diseases (NCDs) only commenced in 2019 and, as shown in the table alongside, the target was not met and improvements are required.

Percentage of employees screened for TB: 2013-2019



Sources: Department of Mineral Resources and Energy, Minerals Council South Africa

TB incidence in mining industry (per 100,000 population): 2013-2019



Sources: Department of Mineral Resources and Energy, Minerals Council South Africa

Industry performance on screening for hypertension and diabetes

	Milestone	2019	2018
NCDs	Screen all employees for hypertension	63.2%	N/A
	Screen all employees for diabetes	57.6%	N/A

Sources: Minerals Council South Africa

Conclusion

A major concern in 2019 regarding the monitoring of occupational health milestones was the decline in reporting by companies onto the Minerals Council health reporting system. This declined further in 2020 as a result of the COVID-19 pandemic.

There was also regression in several milestones such as dust control and the Masoyise targets. The industry is not going to achieve the milestone targets on respirable crystalline silica quartz and respirable coal dust if it does not invest in the continuous real time

monitoring systems that are linked to the critical controls.

In order to improve on occupational health exposures, the Minerals Council's members have committed to adopt the continuous real time monitoring systems, and progress on the adoption with performance on occupational health exposures will be presented to CEOs on a quarterly basis.

Major efforts are also required to improve performance on TB, HIV/AIDS and NCD targets.



Minerals Council's members

have committed to adopt the continuous real time monitoring systems.