

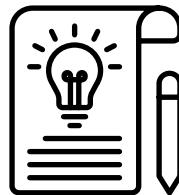


CASE STUDIES

**ON MANAGING HEALTH PROGRAMMES AMID THE COVID-19
PANDEMIC IN THE SOUTH AFRICAN MINING INDUSTRY
6 AUGUST 2021**

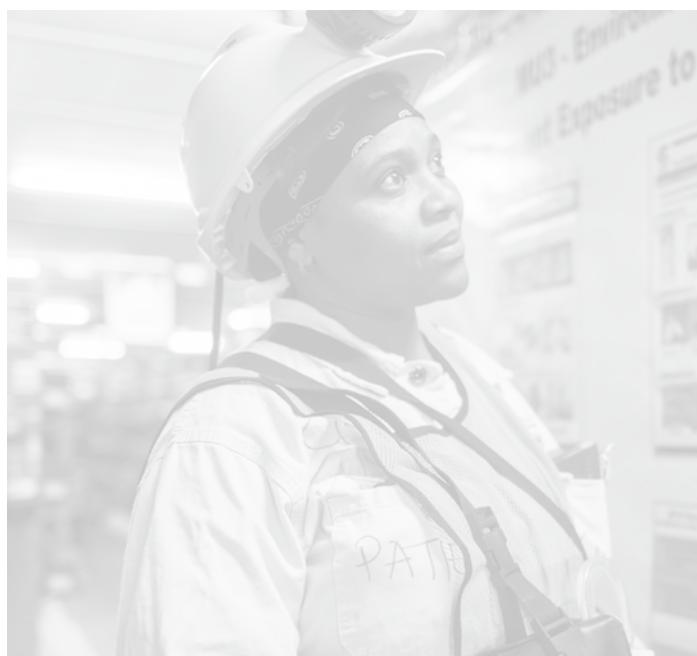
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ABBREVIATIONS

CSFs	Critical success factors
DMRE	Department of Mineral Resources and Energy
DoH	Department of Health
GDP	Gross domestic product
HCT	HIV counselling and testing
HIV	Human immunodeficiency virus
ILO	International Labour Organization
MHSC	Mine Health and Safety Council
NCD	Non-communicable diseases
NHLS	National Health Laboratory Services
NIOSH	National Institute of Occupational Health
OLDs	Occupational lung diseases
OMP	Occupational medical practitioner
PPE	Personal protective equipment
SABCOHA	South African Business Coalition on Health and AIDS
SOP	Standard Operating Procedure
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary counselling and testing
WHO	World Health Organization



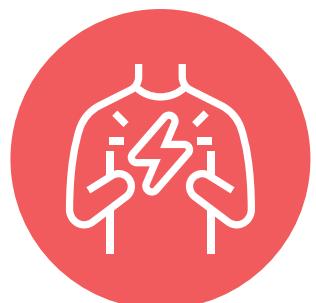
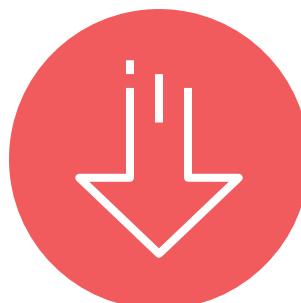
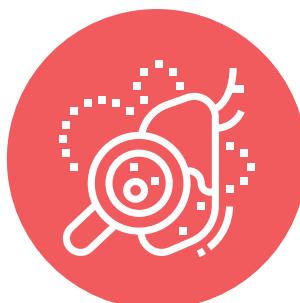
EXECUTIVE SUMMARY

The Masoyise Health Programme (Masoyise) is a Minerals Council-led multi-stakeholder initiative that has been running since 2016. The goal of Masoyise is to reduce the impact of TB, HIV, OLDs and NCDs as occupational health threats in the mining sector.

The Minerals Council tracks the performance of its member companies on Masoyise TB, HIV and NCD indicators using its Health Information Management System (Minerals Council HIMS) hosted on the Health Source platform.

The Minerals Council also collates and monitors the performance of its members on the MHSC milestones for TB and HIV, which were agreed upon by the tripartite stakeholders.

The MHSC and Masoyise targets can be summarised as follows:



100%
of employees should be offered HIV counselling and testing annually and be linked to an antiretroviral therapy programme.

100%
of employees should be screened for TB annually, presumptive cases investigated and those diagnosed should be linked to care.

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

100%
of employees should be screened for hypertension and diabetes.

EXECUTIVE SUMMARY

Continued

During 2020, the Minerals Council observed a decline in reporting and performance on the MHSC and Masoyise indicators by its members. This was mainly due to the negative impact of the COVID-19 pandemic. The impact of COVID-19 on traditional health services is not unique to South Africa and the mining industry as the trend had also been noted nationally and globally.

Despite the decline in reporting and performance across the industry, it was noted that some member mining companies had maintained good performance on their Masoyise indicators, amid the COVID-19 pandemic. It is against this background that the documentation of case studies and critical success factors (CSFs) from these selected mining companies was initiated.

The participating mining companies needed to have complied with the reporting requirement and programme performance against the set Masoyise indicators as well as

the COVID-19 protocols. An analysis of the Masoyise data reported in the Minerals Council's database found 108 mining companies representing 381 operations between 2018 and 2020. These mining companies comprised of Minerals Council members and non-members across all commodities.

A process of elimination was followed using statistical analysis to select the top ten mining companies from the 186 operations. Mining companies which were already committed in other Minerals Council projects were excluded.

Ultimately four mining companies across all commodities were selected to participate in the study. These mining companies are De Beers Consolidated Mines (De Beers), Gold Fields, Royal Bafokeng Platinum Mine (RBPlat) and Seriti Resources.

To develop the case studies, a focus group guide was developed to elicit CSFs.

The CSFs that were found to be inherent in maintaining good performance on Masoyise targets were leadership, financial and human resourcing, electronic health information systems, stakeholder engagement, and communication. Following the exposition of the CSFs, a framework aimed at assisting the companies that intend on adopting these CSFs was developed.

— The objectives of the task were: —



Identifying a maximum of four companies that have maintained good performance in their health programmes.



Engaging with and documenting how the companies managed to comply with reporting and good performance on traditional health programmes while focusing on managing the COVID-19 pandemic in their operations.



Eliciting lessons and highlighting critical success factors that other companies can learn from those with good performance.



Compiling case studies that are easy to read and disseminate.



Running a workshop on how the lessons from these companies can be adopted by others.

1 INTRODUCTION

The Minerals Council is committed to tracking progress on TB, HIV and NCDs using the Minerals Council Health Information Management System (Minerals Council HIMS) on the Health Source platform. The Minerals Council collates data on key threshold indicators from members, evaluates and validates performance against industry health and safety milestones and produces annual reports on performance.



The Minerals Council observed a decline in the Masoyise performance and reporting during 2020 by its members and attributed this to the negative impact of COVID-19 pandemic. The negative COVID-19 impact on traditional health services is not unique to the South Africa and the mining sector as the trend has also been noted globally and nationally.

Despite the general decline in reporting and performance by members of the Minerals Council, a few companies managed to maintain their reporting and good performance during 2020. It is against this background that the documentation of case studies and identification of critical success factors for these selected companies was initiated.

The Minerals Council appointed Mnitia Consulting to collate the mine case studies with the aim of achieving the following objectives:



Identifying a maximum of four companies that have maintained good performance in their health programmes. This was done utilising various methods including perusing statistics from the Minerals Council South Africa Occupational Health Reporting System.



Engaging with and documenting how the companies managed to comply with reporting and good performance on traditional health programmes while focusing on managing the COVID-19 pandemic in their operations.



Eliciting lessons and highlighting critical success factors that other companies can learn from the good performers.



Compiling case studies that are easy to read and implement, and can be used by other companies and stakeholders such as the Mine Health and Safety Council and organised labour.



Run a workshop on how the lessons from these companies can be adopted by others.

This report is a collation of the four case studies and critical success factors identified for maintaining good performance of health programmes, despite the COVID-19 pandemic.

2

METHODOLOGY

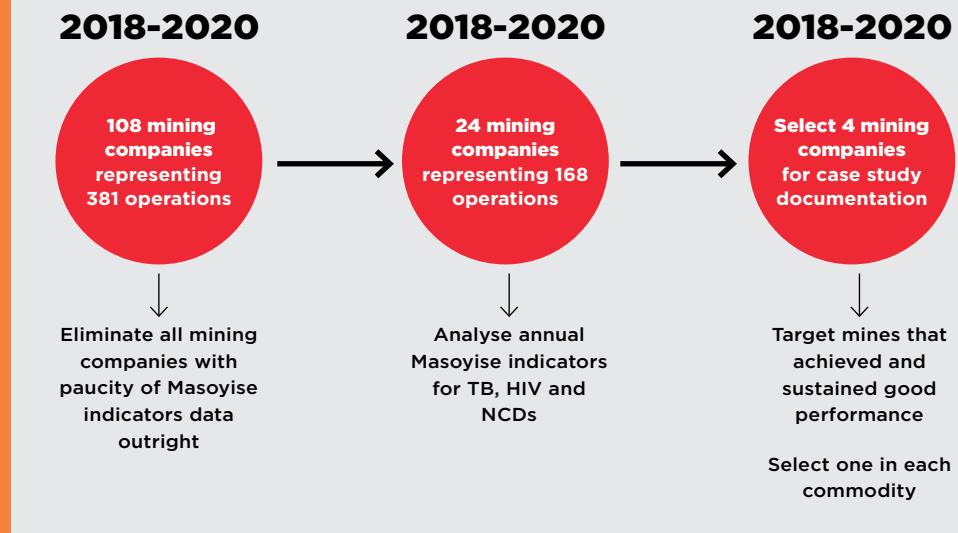


Between 2018 and 2020 108 mining companies representing 381 operations were noted in the Minerals Council Health Information Management System Masoyise Dashboard. These mining companies comprised of Minerals Council members and non-members across all commodities. However, there was paucity of data on Masoyise indicators for most of these mines.

Ultimately, 24 mining companies with a total of 168 operations had enough data on Masoyise indicators for performance analysis. These 24 mining companies are listed in Annexure 1. Figure 1 is a schematic presentation of the process that culminated in the mines for analysis.

To identify the four qualifying companies to be written up as case studies, a process of elimination was followed, based on a review of performance by the Minerals Council on the Masoyise indicators.

FIGURE 1: PROCESS TO SELECT MINING COMPANIES FOR CASE STUDIES



A linear regression model was used to select the mining companies to present their case studies. This model was used to identify significant indicators as well as adherence indicators to the 2020 COVID-19 pandemic return to work protocols, while maintaining good performance on Masoyise indicators. Four mining companies in four commodities that consistently showed annual good performance

and agreed to participate and share their mine case studies were engaged.

The four mining companies that agreed to participate were De Beers, Seriti Resources, Gold Fields and RBPlat.

The Minerals Council requested that some of the companies should not be included due to their

participation in other Minerals Council initiatives. The participating mining companies' performance on Masoyise indicators for the period 2018–2020 indicators will be discussed under their respective case studies.

To document the case studies, the focus group discussions methodology was used. Participants were requested to describe what the mining companies did to achieve the 2018–2020 annual Masoyise good performance and how this was sustained during this period, the challenges the mining companies faced and how these were addressed. To structure the discussions with the participating mining companies a focus group

guiding document (see annexure 2) was developed to elicit five CSFs namely:

1. Leadership
2. Financial and human resourcing
3. Stakeholder engagement
4. Integration of primary health care into occupational medical surveillance
5. Electronic health information management system

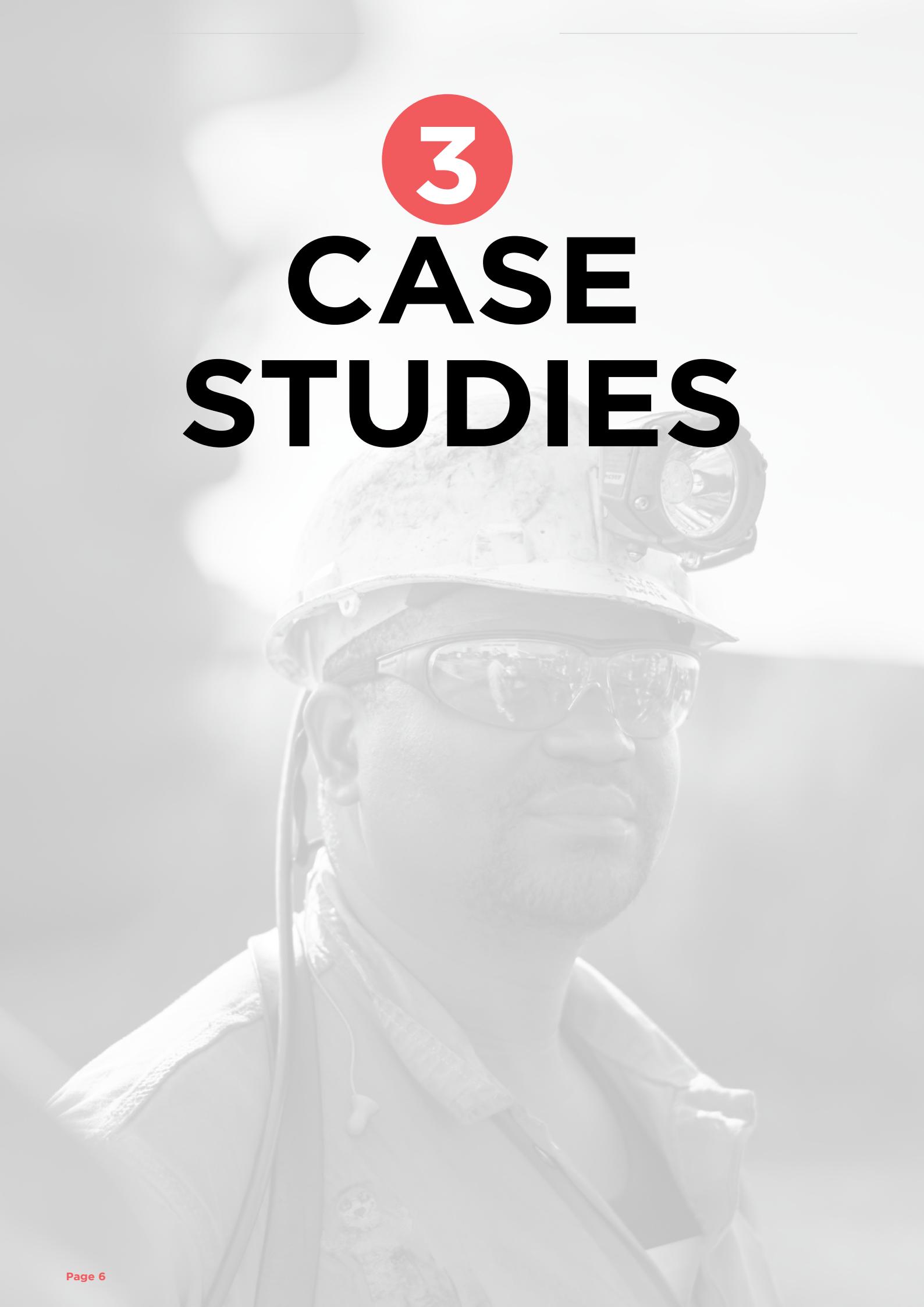
In concluding their company case studies, participants were also requested to share the top critical success factors which they believed assisted them in achieving good performance.



24

companies with a total of 168 operations had adequate data on Masoyise indicators for performance analysis.





3 **CASE STUDIES**

3.1 DE BEERS CONSOLIDATED MINES CASE STUDY

The company has three operations with a total of

6,062



employees inclusive of contractors. Table 4 below shows the performance of the company against the Masoyise targets for the period 2018-2020.

Table 1: Compliance to Masoyise targets by De Beers

Activity	Milestone	Year and achievement		
		2018	2019	2020
HIV counselling and testing	100% of employees should be offered HCT	100%	100%	100%
TB screening	100% of employees should be screened for TB	100%	100%	100%
TB incidence	MHSC milestone: By December 2024, the mining industry TB incidence rate should be at or below the national TB incidence rate	0.0005	–	0.0002
	All employees to be screened for hypertension	N/A	100%	100%
NCD reporting	All employees to be screened for diabetes mellitus	N/A	100%	97%

LEADERSHIP

The company championed HIV programmes by offering ARVs to employees and their dependents in Botswana in 2001. This was attributed to what was described as visionary leadership and being amongst the global leaders in tackling HIV.

In 2002, the programme was rolled out in all Anglo-American mines including De Beers. It was noted that there was a programme fatigue during 2012/2013; which was revitalised in 2014 when leadership took ownership of the programme. When Masoyise started in 2016, the company had a good foundation regarding key indicators.

Leadership from the senior executives down to the operations' general managers are committed to walk the health talk by including health issues in their meeting agendas. Additionally, the leader-led approach means that leaders take ownership of health challenges and intervention programmes at the leadership level. These leaders described as involved, engaging and owning health programmes which is part of the company's scorecard and has health indicators linked to their annual bonuses and share allocation. The health indicators include zero losses as a result of TB or HIV; 95% of the workforce tested for HIV and know their status, 95% of those that tested HIV positive are linked to treatment and support and 95% of them have their viral load suppressed.

Through leadership's participation in the wellness programmes, including HIV counselling testing and the screening of chronic diseases, and sharing the reasons behind them knowing their health status employees' VCT increased from 26% in 2014 to around 84% in 2015, and the viral suppression for those living with HIV also increased to 92%.

INTEGRATION OF PRIMARY HEALTH CARE INTO OCCUPATIONAL MEDICAL SURVEILLANCE

While the medical surveillance is risk based, the wellness programmes are holistic and include screening for chronic diseases, cancers, mental health, body mass index management and smoking cessation. The valuable

point was knowing the poor outcomes of chronic diseases as comorbidities for COVID-19 infection. Other than chronic disease management focus, the company developed a virtual smoking cessation programme.

Health awareness is aligned with the health calendar. Contrary to larger group health awareness communication, smaller groups are targeted for virtual forums. Most importantly, is how the teams are supported with materials that empower them to talk about each topic under the wellness programme utilising various communication techniques.

There is a culture that everyone must know their HIV status which is supported by the opportunity to test. At the point of testing individuals are also afforded an opportunity to be screened for TB. The TB indicator targets for the company are that 100% of the mines' employees must be screened for TB using a questionnaire at every contact with the health care worker, 100% of individuals with TB should be treated and all of them must complete the treatment, and there must be zero TB deaths. There were no cases of TB for a period of 18 consecutive months in 2019 and part of 2020. The achievements were a result of concerted efforts by all stakeholders.

As is the case with HIV and TB, the company encourages all employees to know their health status for example, blood pressure and glucose levels in order to manage them efficiently.

During 2020, a case management hub was developed and implemented. Its role was, amongst others, a multi-disciplinary analysis on long term absenteeism and a standardised medical-incapacity management.

ELECTRONIC HEALTH INFORMATION MANAGEMENT SYSTEM

The occupational health information management system is on a digital platform. Wellness is also in the digital platform to support the Health Index Score and employee portal described under leadership. Occupational health medical records are also digitised. The system allows for the monitoring and evaluation of set indicators continuously at any given time.

The digitised health management system is also used for wellness programme awareness and education. The digitised health education suite enabled the company to continue to focus on chronic disease management and smoking cessation virtually during the 2020 pandemic. At each virtual awareness meeting, the key value preposition that chronic disease comorbidities pose a poor outcome for COVID-19 infection and the importance of treatment adherence were reiterated.

FINANCIAL AND HUMAN RESOURCING

The company placed resources in health programmes that support its health strategy which is aligned at the global and national level. The examples reiterated were those of the HIV programme roll-out, resourcing the occupational medicine such as post COVID-19 surveillance, fatigue management, occupational hygiene and a wellness programme that included cancer screening and smoking cessation and many others.

The company is embarking on a community health strategy aiming at building healthy communities forever through amongst other initiatives, community health intervention implementation and orientated primary care.

STAKEHOLDER ENGAGEMENT

The company maps its stakeholders internally and externally and believes that health is a multi-disciplinary matter. This approach is affirmed by its holistic approach to health. Internal stakeholders range from employees and senior executives to the operation's general managers, and performance on health is linked to their bonuses and shares. Therefore, health is placed at the same level of priority as safety. Health has been moved away from being a function of health professionals to that of a multi-disciplinary team involving engineers, human resources, financial managers, health and safety representatives and union leadership.

The company is now moving health to the communities that the employees come from as described under financial and capacity resources.

3.2 GOLD FIELDS CASE STUDY

South Deep is the only Gold Fields operation which took part. The total workforce complement is

4,038



inclusive of contractors. It is a mechanised mine. Its performance for the period 2018–2020 on Masoyise industry targets is shown in Table 2.

Table 2: Compliance to Masoyise targets by Gold Fields

Activity	Milestone	Year and achievement		
		2018	2019	2020
HIV counselling and testing	100% of employees should be offered HCT	100%	100%	100%
TB screening	100% of employees should be screened for TB	100%	100%	99.87%
TB incidence	MHSC milestone: By December 2024, the mining industry TB incidence rate should be at or below the national TB incidence rate	0.0068	0.0082	0.00358
	All employees to be screened for hypertension	N/A	100%	99.87%
NCD reporting	All employees to be screened for diabetes mellitus	N/A	100%	99.87%

LEADERSHIP

The mine has an open minded and approachable leadership team that is passionate about health issues, and the employees. The leadership understands that mining is not only about production but also about investing in the health of the employees. The leaders also recognise that health is not only about legal compliance but contributing to moving the mine forward by investing in the holistic wellbeing of its employees. The long-term benefit for the mine that a healthy workforce results in a positive attitude to work is spelt out.

INTEGRATION OF PRIMARY HEALTH CARE INTO THE OCCUPATIONAL MEDICAL SURVEILLANCE PROGRAMME

The mine actively manages every employee who returns to work after leave. Following the COVID-19 pandemic lockdown in 2020, employees were not allowed to return to work without going to the clinic for a fitness assessment which included checking all the chronic conditions. There were intense counselling sessions pertaining to chronic diseases and motivation to disclose their medical conditions. Once the relationship was established, the team was able to create a database of Masoyise indicators. This was followed by active management such as monthly follow up. Various channels of interactive communication are used such as weekly briefs and WhatsApp communication channels.

Since 2020, there is a wellness clinic at the shaft that operates in the morning and afternoon to target employees going underground and coming from their shift to ensure that they access the services. This process commenced as a result of an increasing number of sick employees coming to work. Although the initial concern was to screen for possible COVID-19 infection, the process has become part of the mine's overall strategy in screening for Masoyise targets. Through wellness programmes, compliance is monitored to ensure adherence to Masoyise key indicators. Every month, a weekly reconciliation is done to confirm employees who are due for their monthly review, and this is followed

by contacting them through various communication channels.

Prior to 2020, there were only calendar wellness days held quarterly or yearly on specific topics as compared to the daily provision of health screening done currently. The 2020 strategy described in the previous section emanated from the recognition that employees were not sharing their medical conditions willingly. During the post lock-down pre-work assessment in 2020 (April to July), the health team was based at the shaft daily from 4am, going through a questionnaire, full vital examination and blood glucose tests on all diabetics. The immune-compromised employees had to provide proof of treatment and viral load results for HIV. After July 2020, all employees returning to work (from neighbouring countries post-COVID-19) had to go through the occupational health centre for a full fitness assessment. As from June 2021 the wellness team (a professional nurse and an enrolled nurse) is at the shaft from 4pm until 7pm on Mondays to Fridays for continued health awareness.

During 2018-2020, the mine was able to achieve the Masoyise targets because of the integration of primary health care and the occupational medical surveillance programme. The mine was able to know an employee's condition and respond to treatment particularly for those who were on open medical aid. The company had to come up with a strategy to build and sustain relationships with the employees for them to trust their wellness value case. The health teams were consistent and the trust between them and the employees improved the utilisation of chronic disease screening like blood sugar, weight and blood pressure. These activities made the employees see that the mine cares for them.

FINANCIAL AND HUMAN RESOURCING

The buy-in from the executives into the Masoyise Health Programme ensured that financial and human resources were mobilised. The added benefit of the professional nurses' two shifts a day since 2020 was a reduction in absenteeism.

ELECTRONIC HEALTH INFORMATION MANAGEMENT SYSTEM

The mine has a fulltime case manager in-house. The current active case management to track wellness programme compliance uses a Microsoft Excel system which is not automated. The mine copes currently with this non-digitised format because of the manageable number of employees. Only the Masoyise programme reporting to the Minerals Council and the DMRE is automated.

STAKEHOLDER ENGAGEMENT

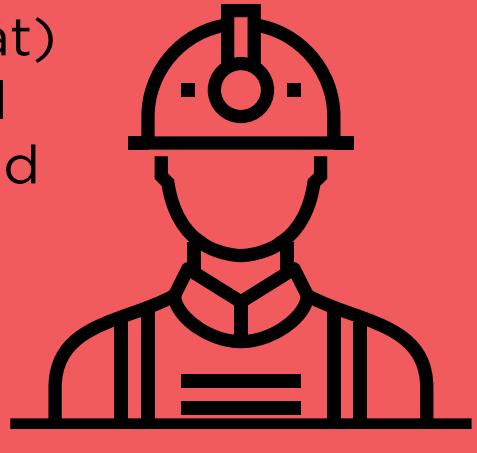
The company defines its stakeholders to include senior executives, health and safety representatives, union leadership and employees who are involved upfront in developing the health programme value case. For stakeholder wellness programme communication, the company agreed calendar meetings are on every second week, monthly and quarterly. These meetings have standing agenda items to provide continuous feedback to all stakeholders and keep everybody involved informed. Additionally, there are ad hoc meetings, for example, if it is envisaged that there are going to be programme changes, stakeholder engagement becomes the first step in the process. The mine's approach to stakeholder engagement allows for stakeholders to be part of the solution which increases buy-in to the programmes. The company emphasises that management is not the only stakeholder that has all the solutions. The success of their wellness strategy is a result of their participatory stakeholder engagement process.

"The mine's approach to stakeholder engagement allows for stakeholders to be part of the solution which increases buy-in to the programmes."

3.3 ROYAL BAFOKENG PLATINUM CASE STUDY

Royal Bafokeng Platinum (RBPlat) has three operations with a total workforce complement of around

11,000



comprising of 5,000 permanent employees and 6,000 contractors. The company utilises both conventional and mechanised mining. There is a clinic at each shaft, however, one is considered a main clinic. There were 60 primary health care and 150 occupational health clients serviced in one clinic a day. The medical services are divided into primary and occupational health (work-based health) services. The primary health care service is 24 hours a day. Its performance for the period 2018–2020 on Masoyise industry targets is shown in Table 3.

Table 3: Compliance to Masoyise targets by RBPlat

Activity	Milestone	Year and achievement		
		2018	2019	2020
HIV counselling and testing	100% of employees should be offered HCT	100%	100%	100%
TB screening	100% of employees should be screened for TB	100%	100%	100%
TB incidence	MHSC milestone: By December 2024, the mining industry TB incidence rate should be at or below the national TB incidence rate	0.0017	0.0019	0.0005
NCD reporting	All employees to be screened for hypertension	N/A	100%	100%
	All employees to be screened for diabetes mellitus	N/A	100%	100%

INTEGRATION OF PRIMARY HEALTH CARE INTO OCCUPATIONAL MEDICAL SURVEILLANCE

Prior to 2019, the workforce was divided into permanent employees and contractors. While permanent employees received comprehensive primary care service, contractors were only offered flu treatment. Since 2009, all employees including contractors have been placed on an in-house medical aid. Automatically, hypertension, diabetes, TB, and HIV screening investigation, treatment, monitoring and follow-up are in-house.

ELECTRONIC HEALTH INFORMATION MANAGEMENT SYSTEM

The company utilises a service provider for both primary and occupational health services who in turn uses Q-Med Health. It is an electronic health information management system which has various modules that include occupational health, primary health care and others such as trauma. All the modules for the Q-Med Health information system are interlinked and as such all other medical records of the employee can be viewed at each consultation. With this integrated electronic system, the company has removed the time wasted and

frustration of employees travelling between primary health care and occupational health departments.

The electronic system enables the health team to get all the employees' medical information at the click of a button from various modules to treat, monitor and evaluate continuously, and for the doctor to update his fitness to work which is linked to the shaft. The system also enables the team to generate statistics effortlessly.

When employees arrive at a clinic, they are booked for an examination on the system depending on their clinical presentation and treated or referred if necessary. The system is therefore described by the company as one-stop health shop, where all the medical needs are catered for.

All employees entering a clinic are screened for TB using a questionnaire. With all the medical surveillance and primary health consultation, the completion of a TB questionnaire is mandatory, otherwise the consultation cannot be closed on the electronic modules pertaining to it. If TB is suspected, a sputum sample is collected in-house. If the TB results return positive, the employee is treated and monitored in-house. There are no TB referrals out of the system for all employees.

When an employee's sputum tests TB positive, the doctor accesses the occupational health module and declares the employee unfit to go to work during the intensive treatment phase. The CoF is reissued by the doctor when deemed fit.

When TB is investigated, HIV screening is also done. TB contact tracing is concentrated among the mine employees and not to their immediate families. However, the company has a team that conduct community TB contact tracing. The TB contact tracing challenge so far has been cross border tracing.

The in-house mandatory TB screening at each health consultation is what sustained the company's performance during the COVID-19 pandemic, because it is not negotiable. An example is that if there are 150 clients seen for occupational health services, there will be 150 completed TB questionnaires and vice versa in primary health care consultation.

The Q-Med Health information management system module for HIV is called voluntary counselling and testing (VCT). For all employees, even those that are on antiretroviral drugs (ARVs), or previously tested positive or negative, there is a mandatory VCT questionnaire that is compulsory to complete at each consultation.



At each clinic visit, an employee goes via a station to complete this questionnaire. Depending on the assessment outcome, VCT support is provided. With every primary or occupational health consultation, an employee must also answer a mandatory question on the HIV status, otherwise the consultation cannot be closed.

Once an employee tests HIV positive, their records are included in the chronic disease management module for treatment, monitoring and evaluation. Once put on ARVs, they are given a limited certificate of fitness for only six weeks to monitor their viral load. Upon review, it is extended to three months initially, once again to ensure treatment compliance and wellness. If the employee is doing well in terms of treatment adherence and wellness, the certificate of fitness period is increased to a maximum of six months. The maximum six months certificate of fitness also issued for other chronic diseases including mental health illness or cancer and correlates with the maximum time allowed for repeat medication scripts. For HIV follow-ups CD4 counts and viral load are tested. The system also flags those that miss their review and treatment appointments. Once this occurs, the employee is contacted and if there is no response, they

are blocked from clocking in at work. The general awareness and education of health and well-being by employees has improved as a result.

The current challenges with newly diagnosed HIV, is the lack of drugs on-site due to lack of a pharmacy at this stage. However, the turnaround from the external pharmacy is 24 hours. The company has resources to build a pharmacy which will be in operation before end of 2021.

The Q-Med Health information management system modules for hypertension and diabetes are similar to those described in the previous section including the management and issuing of certificates of fitness. With hypertension, due to the availability of serial data, one can decide on the diagnosis and management when an abnormal reading is encountered. For employees with mild hypertension or diabetes, their certificate of fitness is limited to six months.

STAKEHOLDER ENGAGEMENT

The company has the buy-in from executives, line management, employees and union leadership including health and safety representatives for health programmes. This buy-in was

considered key to the company's success story of achieving the Masoyise indicator targets. The success story was based on many years of stakeholder engagement which led to the provision of financial and human resources for the programme.

It was noted that it took many years for the "know your health status" culture to be embedded as a company culture which is yielding the Masoyise programme success story today. Compared to the initial implementation of the Q-Med Health information management system, the operations and maintenance plan stated that in recent times, when an employee is blocked from accessing the workplace, instead of running to the unions, they consult the clinic first. The unions also continue to uphold the culture whenever challenges emerge. The culture is such that even at initial medical surveillance, if the potential employee is found to have chronic diseases, they accept referral prior to coming on-board. To date, no one has been excluded from employment if they have controlled chronic diseases and their potential work poses no risk of aggravation.

The long-term reward for the company's health care workers has been the elimination of HIV opportunistic infections such as candidiasis and dehydration.



3.4 SERITI RESOURCES CASE STUDY

Seriti Resources has four operations with a total workforce of

6,032



mineworkers including contractors. Its performance for the period 2018–2020 on Masoyise industry targets is shown in Table 1.

Table 4: Compliance to Masoyise targets by Seriti Resources

Activity	Milestone	Year and achievement		
		2018	2019	2020
HIV counselling and testing	100% of employees should be offered HCT	94.9%	100%	100%
TB screening	100% of employees should be screened for TB	100%	100%	100%
TB incidence	MHSC milestone: By December 2024, the mining industry TB incidence rate should be at or below the national TB incidence rate	0.0015	0.0018	-
NCD reporting	All employees to be screened for hypertension	N/A	95.94%	96.63%
	All employees to be screened for diabetes mellitus	N/A	95.40%	58.83%

LEADERSHIP

The mine leadership recognises the impact that TB and HIV have on human capital and its strategy is guided by the national policy. Although it does not have a hospital, all company employees are on a subsidised open medical aid.

The leadership supports the wellness programmes and resources these financially. Health superintendents who are qualified nursing personnel are championing the Masoyise Health Programme as they coordinate monthly workplace activities. There is a passive TB screening and a cough screening questionnaire conducted at each medical surveillance visit. The intensification of TB case finding resulted in the company's TB incidence rate being

below that of the country's national rate and no TB case found in 2020.

FINANCIAL AND HUMAN RESOURCING

The company has a good foundation for Masoyise Health Programmes. The key principle for HIV and TB in the mines is equal access to preventative treatment for all employees including contractors, while respecting the right of workers, their confidentiality and ensuring continuation of treatment when the employee exits the company. To align itself with this key principle, there is a financial budget to cover the HIV test, viral load and CD4 count testing for all employees including contractors. There is also a referral system for treatment to either own doctor if on medical aid or to the district's department of health

facility for contractors. The company has what it deems "a very strong partnership with the district's DoH".

Similarly, there is a budget to test the HBAC1, a specialised test for diabetes for all employees and the referrals system is the same as that for HIV. The indicators for HIV, hypertension and diabetes assist the company in tracking compliance and the wellbeing of all employees affected.

For the company, 2020 was the only year which posed human resource challenges due to COVID-19. From the onset, the company believed that managing the COVID-19 protocols was going to be complex and implementing the added preventative precautionary measures would be immense, and would strain the labour capacity. To sustain the



3.4 SERITI RESOURCES

CASE STUDY

Continued

existing performance on Masoyise, three extra nursing professionals on locum basis were employed to manage employee wellness and chronic diseases. Additionally, some of the health care workers were diverted from their primary functions to what the company called task re-assignment. A case in point was also that of the paramedics who would be on standby to assist with the daily COVID-19 questionnaires, vitals and thermals.

The company's task re-assignment strategy culture had been successful prior to COVID-19. When the clinic is too busy, paramedics are brought in to assist with the basic screening services. The process of screening always involves multi-disciplinary team engagement and negotiation with those affected. This process always brings a positive and holistic team approach to health and wellness as opposed to an individualistic work attitude of 'I am hired to do this; therefore, I cannot assist'.

INTEGRATION OF PRIMARY HEALTH CARE INTO THE OCCUPATIONAL MEDICAL SURVEILLANCE PROGRAMME

The company has integrated primary health care into the medical surveillance programme on site. HIV counselling and testing are factored into the medical surveillance programme. It monitors the percentage of HIV positive employees' viral suppression, the list to follow-up, defaulter rate and treatment success rate. Through the integration of primary health care and medical surveillance systems, missed opportunities of TB & HIV,

and other chronic disease diagnoses are minimised. Also, all high-risk employees for TB are on INH prophylaxis which reduces the risk of an initial TB occurrence in people exposed to infection or with latent infection as well as the recurrence of TB in those who had been infected before.

Additionally, the Ventilation and Occupational Hygiene and Engineering (VOHE) department is included in the surveillance programme to factor in the engineering controls and occupational exposure levels.

STAKEHOLDER ENGAGEMENT

The company maps its internal and external stakeholders. The internal stakeholders are employees, health and safety representatives, union leadership, VOHE and line managers, while the key external stakeholder is the district's DoH.

The company has partnered with the district's DoH regarding the primary health care programmes to bridge the local community involvement gap. The partnership also assists in ensuring that the contractors receive the necessary care following TB, HIV, hypertension and diabetes positive testing referrals described under leadership. The company shares all its campaign materials, including testing kits during the community campaigns with the DoH.

ELECTRONIC HEALTH INFORMATION MANAGEMENT SYSTEM

The company uses the Mineral Council's Health Information Management System hosted by

Healthsource. The health team (doctors and professional nurses) can track and monitor the Masoyise targets including distinguishing between occupational and non-occupational diseases. It also assists with tracking high risk employees as well as sending SMS reminders for treatment and consultation due dates to affected employees without disclosing what the treatment is for.

For the employees with TB, the certificate of fitness (CoF) is limited to a month to allow the follow-up and monitoring of adherence to treatment and treatment success. The relationship with district DoH comes into play as the company is notified when an employee commences TB treatment, their adherence to treatment and when the course of treatment is completed. At each mine, chest x-rays and weight are monitored on a month-to-month basis.

The compliance to chronic disease treatment targets is incentivised. For example, if the employee's viral load is low and the CD4 count is optimal, the CoF is issued for a year. If the viral load increases and CD4 count decreases, the CoF reverts to quarterly for an indeterminate period. Employees do not like this quarterly limitation of the CoF and as such tend to adhere to treatment voluntarily. The employee's CoF can be suspended for poor adherence to treatment that leads to an increase in the viral load and low CD4 count, to minimise further risk of deterioration or non-compliance to prophylactic treatment. During the occupational medical surveillance examination, a deep dive into an employee's health status is also done.

4

CRITICAL SUCCESS FACTORS FOR MASOYISE TARGET ACHIEVEMENTS

From the four company case studies described under section 4, five CSFs inherent to the implementation of Masoyise's programme effectively were elucidated and are discussed under section 5.1-5.5. These are leadership, financial and human resources, integrated primary health and medical surveillance, electronic health information management systems and stakeholder engagement. Additional success factors on medical aid provision were also found and are discussed under item 5.6.

4.1 LEADERSHIP

It was found that participating companies defined leadership to include senior executives, financial managers, general managers, line managers and union leadership.

All participating companies described leadership commitment as central to the success of health programmes and their sustainability. There was emphasis that leadership that is committed to the wellbeing of the employees is not only focused on production but also empowers themselves in understanding health

issues. The leadership's understanding of health programmes and their benefits translated to mobilising financial and human resources as they responded proactively during the 2020 COVID-19 emergence while sustaining Masoyise's programme.

The attributes of these leaders were those that inculcate a culture of team effort as well as building strategies capable to communicate that health is everybody's business, starting from the highest echelons to the lowest categories of employees, through "walking the talk". These leaders embedded the health programmes in the core of the company's business and ensured that they are owned by everyone at leadership level, which in turn became a natural process for employees to take ownership of their individual health. These leaders can listen to those with technical expertise and different points of view to ensure that even during times of resource constraints the company endeavours to strike a balance because of the certainty that without a healthy workforce, there is no business. It was concluded that these leadership attributes build mutual trust amongst all the stakeholders.

4.2 STAKEHOLDER ENGAGEMENT

Although leadership is key in achieving the Masoyise targets, it is important that a company does a stakeholder analysis and develops an agreed upon formal process to engage all stakeholders that may be affected. Simply put, agreeing to the

rules of engagements is integral to the process and as such no decision or programme should commence prior to stakeholder engagement. Any company that has embedded in its strategies a culture to make all its stakeholders a part of the solution and part of the team, sets itself ahead for buy-in, trust and ownership of the programmes.

The success of any health programme depends on stakeholders' understanding of why such a programme is needed and how it is going to be implemented. Good stakeholder management instils an organisational workplace culture conducive to teamwork and is service orientated instead of task orientated. Inherent in the case studies by companies was the knowledge of their stakeholders, the rules of engagement and their roles and responsibilities.

4.3 ELECTRONIC HEALTH INFORMATION MANAGEMENT SYSTEM

An electronic health information management system that was interactive between the primary health programme and the occupational medical surveillance programme was found to be critical for successful implementation of these programmes. With an interactive system, the Occupational Medical Practitioner (OMP), or the primary health care team is able to record or view the employee's health data and act proactively. The OMP is also able to block

the certificate of fitness which stops the employee from going underground and therefore triggers the employee to consult the primary care or occupational health centres for further management. It also allows the health team to monitor employees' compliance to medical treatment. Additionally, it can be used as an oversight and control of standardised activities, for example, without completing a TB questionnaire, an employee is not able to move to the next section or close the consultation.

The system also assists in timeous reporting to the Minerals Council, the DMRE and the DoH.

4.4 INTEGRATION OF PRIMARY HEALTH CARE IN THE OCCUPATIONAL MEDICAL SURVEILLANCE PROGRAMME

One of the main goals of integrating occupational health services into primary health care is described as access to basic health services and the prevention of occupational and work-related diseases and injuries for all employees at all workplaces. A compelling case to consider

integration is that the employees' holistic disease profile is managed by both the practitioners with less hassles and less movement which in turn enhances better communication and monitoring of the employees' health. Through the integration, missed opportunities of TB and HIV, and other chronic disease diagnosis are minimised.

4.5 FINANCIAL AND HUMAN RESOURCING

Financial and human resourcing of health programmes was found inherent in the four mines and was linked to a leadership that walked the talk. Resourcing of health programmes was not viewed as indirect investment for business sustainability.

4.6 ADDITIONAL SUCCESS FACTORS

While CSFs inherent in the four mines described in the aforementioned section were commonly described by participants, medical aid provision was found to vary. In the first company, all employees including contractors were on a medical aid which ensured that all

employees' primary health care needs were catered for in-house including screening and treatment for TB and other chronic diseases listed under Masoyise. This allowed the health team access to all medical records of employees, and to monitor and proactively act at any given time.

In the second company, all mine employees were on an open medical aid except for contractors. However, the mine had a budget for the screening and testing of all its employees including contractors for TB and other chronic diseases listed under Masoyise. This budget included monitoring of treatment adherence.

In the third company, medical cover aid cover for all employees was externalised in 2020. The company had created a baseline database of all employees with chronic diseases when the medical aid was externalised. However, the externalised medical aid without a database of those with chronic diseases may pose a challenge as employees may not declare their chronic diseases voluntarily and therefore, there is limitation on the knowledge of employee wellness.



“Health is not an issue for only health workers.”

5 FRAMEWORK FOR IMPLEMENTING CRITICAL SUCCESS FACTORS

To guide the implementation of the critical success factors, a framework was developed and is presented in table 5.

Table 5: Framework for implementing a sustainable health programme

Components	Narrative
Plan	
Clear definition of the programme goals, roles and the impact	<ul style="list-style-type: none">✓ Define the wellness programme case value clearly and its long-term benefits.✓ Develop clear guideline policies, procedures and standard operating procedures and communicate these continuously. Always be prepared to review these documents with consultation at any given time during the year when necessary.
Financial resourcing	<ul style="list-style-type: none">✓ Develop evaluation and monitoring including continuous feedback channels to keep the programme alive.
Set norms of quality and constantly evaluate and monitor for continuous improvement	<ul style="list-style-type: none">✓ Resource the programme annually as you plan the budget for the other company's key performance areas.
Realistic calendar task activities	
A balanced budget that will respond to emerging health risk is key	
Processes	
Solid infrastructure	<ul style="list-style-type: none">✓ Electronic health management system that enables the interactive health management system that allows access to primary health care data and medical surveillance system at the press of a button.
An efficient integrated primary health and medical surveillance	<ul style="list-style-type: none">✓ Processes are documented and standardised.✓ Activities are standardised, controlled and repeatable through organisational policies and guided by national legislation, policies and guidance notes.
People	
Teamwork	<ul style="list-style-type: none">✓ Organisational workplace culture conducive to teamwork and is service orientated.
Competencies	<ul style="list-style-type: none">✓ Embedment of knowledge sharing behaviors.
Commitment	<ul style="list-style-type: none">✓ Organisational culture that nurtures competencies and knowledge, team morale reward and retention.✓ Leadership that is committed to the wellbeing of the workers and not only production by empowering themselves in health issues and not only production and walking the talk. <i>"Health is not an issue for only health workers"</i>.✓ Stakeholder engagement with openness to create mutual trust.
Power	
Experienced managers	<ul style="list-style-type: none">✓ Supportive, committed and strong management team.✓ Adopting the correct strategy.✓ Visionary and strong leadership that has the capacity to develop and sustain capability and is able to avail financial resources✓ Good human resource management system.✓ Management team that has the ability to engage and listen.
Contingency strategy	
Example 1.	COVID-19 triggered companies to think of different strategies in managing wellness and absenteeism, for example, resources to screen employees before and after work, provide PPE and coordinate vaccination.
Example 2.	Prior to COVID-19, provision of VCT to high-risk employees was included as part of HIV and TB management by many companies.

6

CONCLUSION

In conclusion, there were five CSFs that were found inherent in the four participating mines. These were leadership, financial and human resourcing, stakeholder engagement, integration of primary health care into occupational medical surveillance programme, and electronic health information management system.

All these CSFs are equally important for sustainability and can lead to the 2024 Masoyise milestone achievements.

7

RECOMMENDATION

It recommended that these five inherent CSFs be adopted by companies planning to accomplish the Masoyise targets. Furthermore, the framework shown in Table 5 is aimed at assisting these companies in adopting these CSFs.

REFERENCES

1. Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, 13(4), 544-559. Retrieved from <http://www.nova.edu/ssss/QR/QR13-4/baxter.pdf>
2. Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
3. Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.
4. Lather, P. (1992). Critical frames in educational research: Feminist and post-structural perspectives. *Theory into Practice*, 31(2), 87-99.
5. Critical Success factors (CSF). www.businessdictionary.com Business Dictionary. Retrieved 15 May 2017
6. Mesly, Olivier (2017). *Project feasibility – Tools for uncovering points of vulnerability*. New York, NY:Taylor and Francis, CRC Press, 546 pages, ISBN 9 781498 757911
7. Gerry Johnson Kevan Scholes. Edition, Exploring corporate strategy ISBN: 978-0-273-71191-9 (text only) ISBN: 978-0-273-71192-6 (text and cases) EIGHTH
8. Gerring, John (2007). *Case Study Research: Principles and practices*. Cambridge University Press. pp. 1, 19–20. ISBN 978-0-521-85928-8.
9. Gerring, John (2017). Qualitative methods; *Annual Review of Political Science*. 20 (1): 15–36. doi:10.1146/annurev-polisci-092415-024158. ISSN 1094-2939
10. Seawright, Jason; Gerring, John (2014), "Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options", *Political Research Quarterly*, doi:10.4135/9781473915480.n31, ISBN 978-1-4462-7448-4.

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