

# Biography



**Dr Nothando Moyo** is an Occupational Health Medical Practitioner with more than 15 years of expertise in Occupational Health and the formulation of Occupational Health policies. She currently serves as the Deputy Head for Occupational Health at the Minerals Council.

Dr Nothando has chaired the Northern Cape Mine Managers Association (NCMMA) Wellness Stream and has previously held the position of president of the Mine Medical Practitioners Association (MMPA). She previously worked at Anglo-American as a Superintendent for Health and Wellness.

She holds a Master of Business Administration from Wits Business School, a Post-graduate Diploma in Occupational Medicine from the University of Pretoria, and a Medicine and Surgery (MChB, Cum Laude) degree from Medunsa. Dr Nothando is deeply passionate about health and wellness. An enthusiastic golfer, runner, motivational speaker and wellness advocate.



Sedibelo Platinum Mines – Pilanesberg Platinum Mine

# ACHIEVING ZERO OCCUPATIONAL LUNG DISEASES (OLD) IN THE SAMI IN OUR LIFETIME

## STRATEGIES & BEST PRACTICE

Dr Nothando Moyo, Deputy Head of Health | 25 July 2025, DUST CONFERENCE



**MINERALS COUNCIL**  
SOUTH AFRICA

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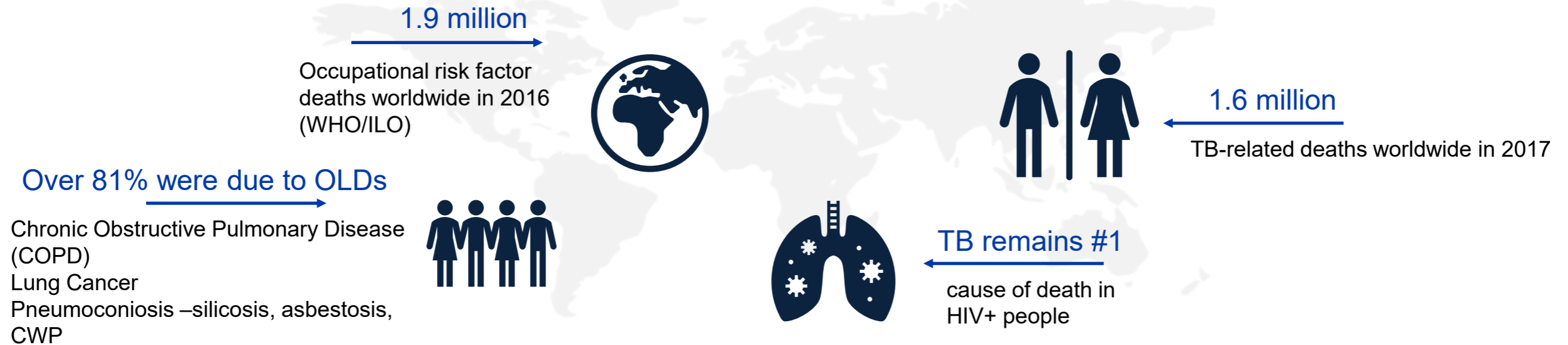
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# INTRODUCTION

# OCCUPATIONAL LUNG DISEASE (OLDs) – THE BURNING PLATFORM



Occupational exposure to harmful dust a major concern

TB is a major public health problem.

It is a curable disease with effective treatment.

However, drug-resistant TB is a major contributor to antimicrobial resistance worldwide.

Annually about half a million people fall ill with drug-resistant TB globally.

In 2021 an estimated 10.6 million people fell ill with TB.

MDR-TB remains a public health crisis and health security threat.

# TB – THE BURNING PLATFORM



A total of **1.25 million** people died from TB in 2023 (including **161 000** people with HIV).

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Worldwide, TB has probably returned to being the **world's leading cause of death** from a single infectious agent, following three years in which it was replaced by COVID-19.

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It was also the leading killer of people **with HIV** and a major cause of deaths related to **antimicrobial resistance** (WHO, 2024).

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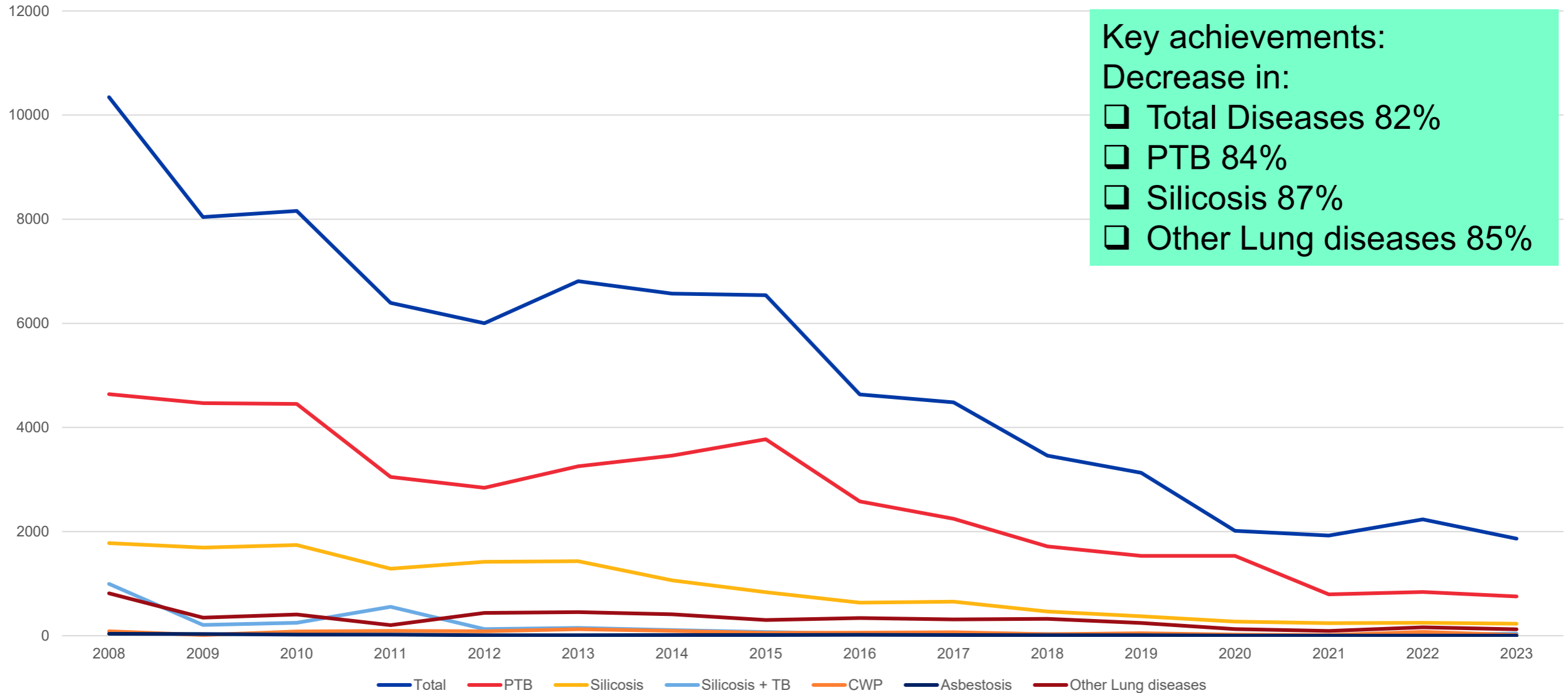
# OCCUPATIONAL LUNG DISEASES IN THE MINING INDUSTRY

Kumba Iron Ore – Sishen



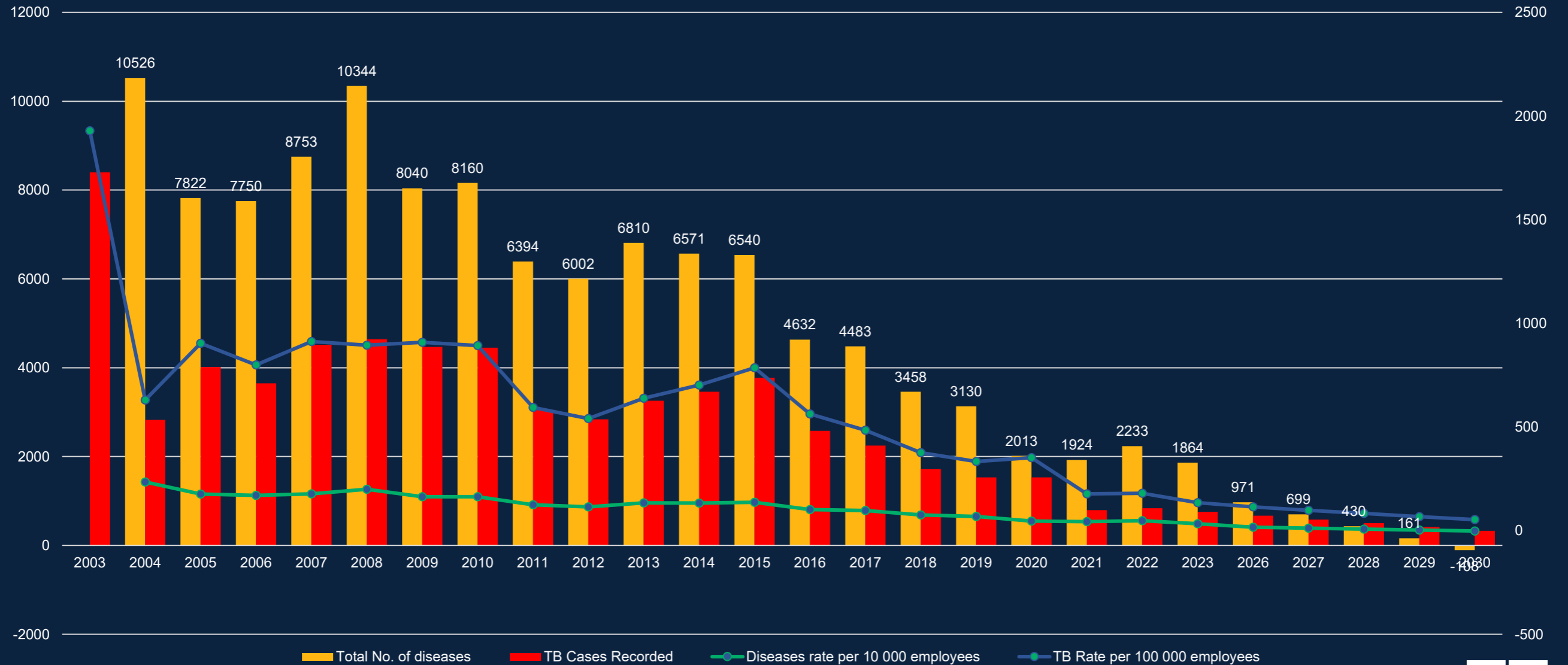
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# Occupational diseases in mining industry



Source: Department of Mineral Resources and Energy

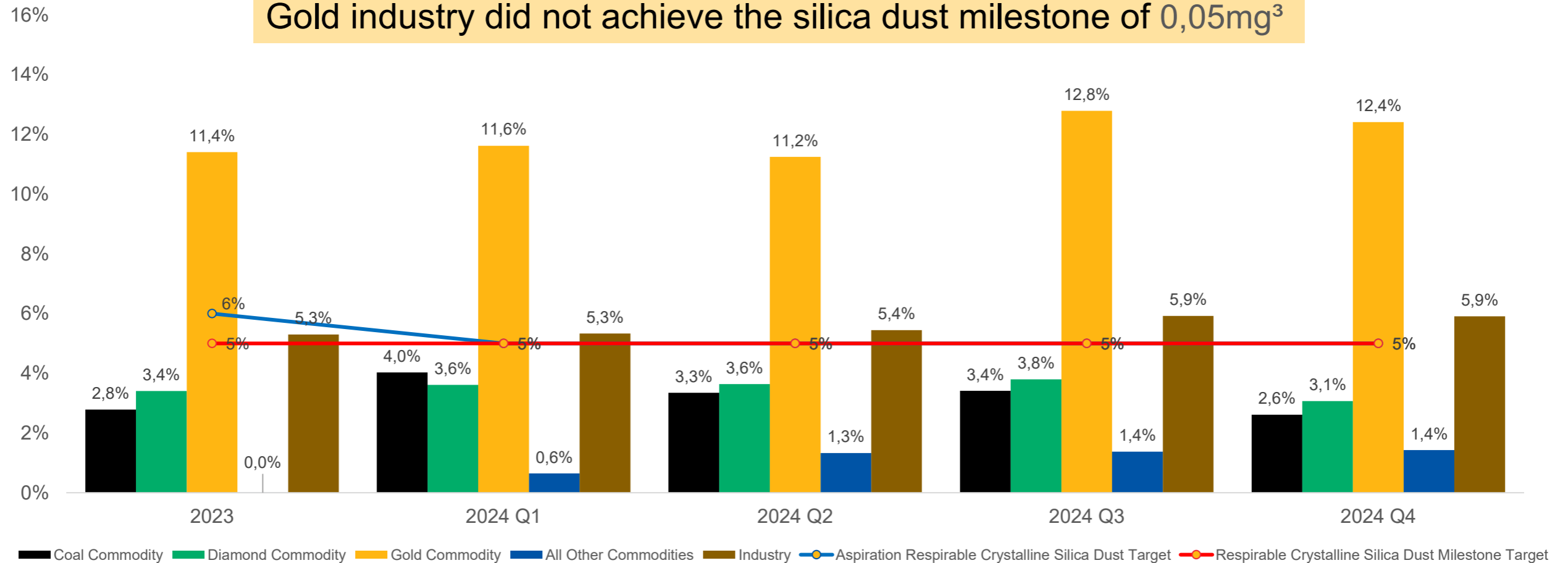
# RAISON D'ETRE: ELIMINATION OF OCCUPATIONAL DISEASES



# HOW HAVE WE PERFORMED: SILICA DUST (2014 MILESTONE)

Percentage of Respirable Crystalline Silica Dust Samples >0,05mg<sup>3</sup> (2014 Milestone)

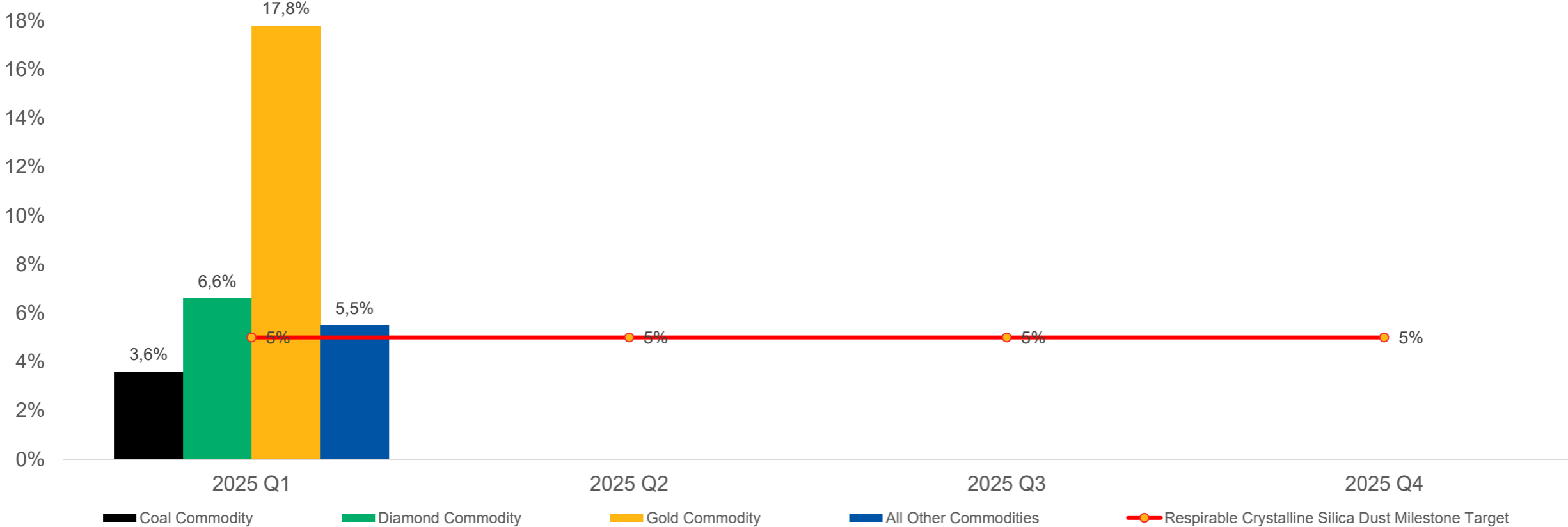
Gold industry did not achieve the silica dust milestone of 0,05mg<sup>3</sup>



# WHERE WE ARE NOW: SILICA DUST (2024 Milestone)

Percentage of Respirable Crystalline Silica Dust Samples >0.03mg/m<sup>3</sup> (2024 Milestone)

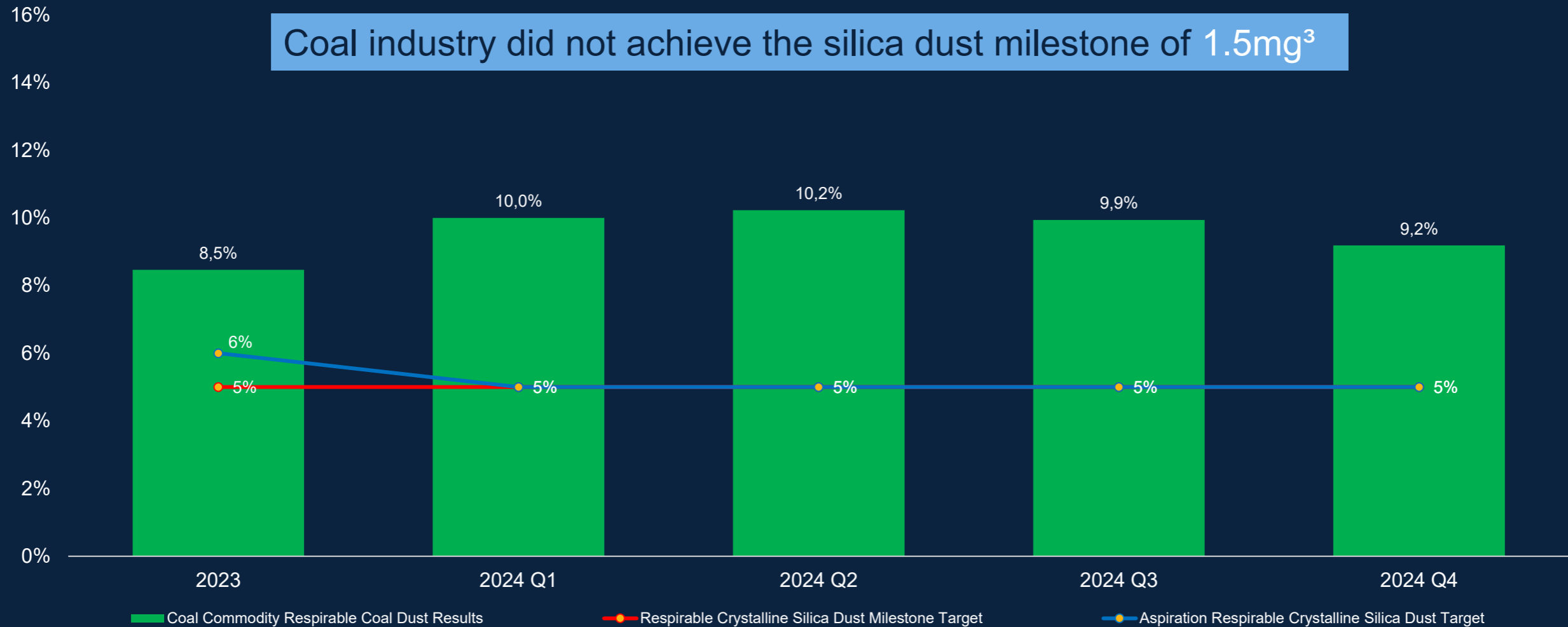
Increased efforts are required for the industry to progress to the milestone of 0,03mg<sup>3</sup>



# HOW HAVE WE PERFORMED: COAL DUST (2014 MILESTONE)

Percentage of Respirable Coal Dust Samples >1,5mg<sup>3</sup> (2014 Milestone)

Coal industry did not achieve the silica dust milestone of 1.5mg<sup>3</sup>



# WHERE WE ARE NOW: COAL DUST

Percentage of Respirable Coal Dust Samples >1,25mg<sup>3</sup> (2024 Milestone)

Increased efforts are required for the industry to progress to the milestone of 1.25mg<sup>3</sup>



# CHALLENGES & OPPORTUNITIES IN OCCUPATIONAL LUNG DISEASE CONTROL

DRDGOLD – Mine reclamation

# CHALLENGES & OPPORTUNITIES IN OLD CONTROL IN MINES



1. Improved Dust Control Measures



2. Integrated TB and HIV programmes



3. Improved screening of current and ex-miners (use of new technology)



4. TB & HIV counselling and testing and linkage to treatment (UNAIDS 95-95-95 strategy)

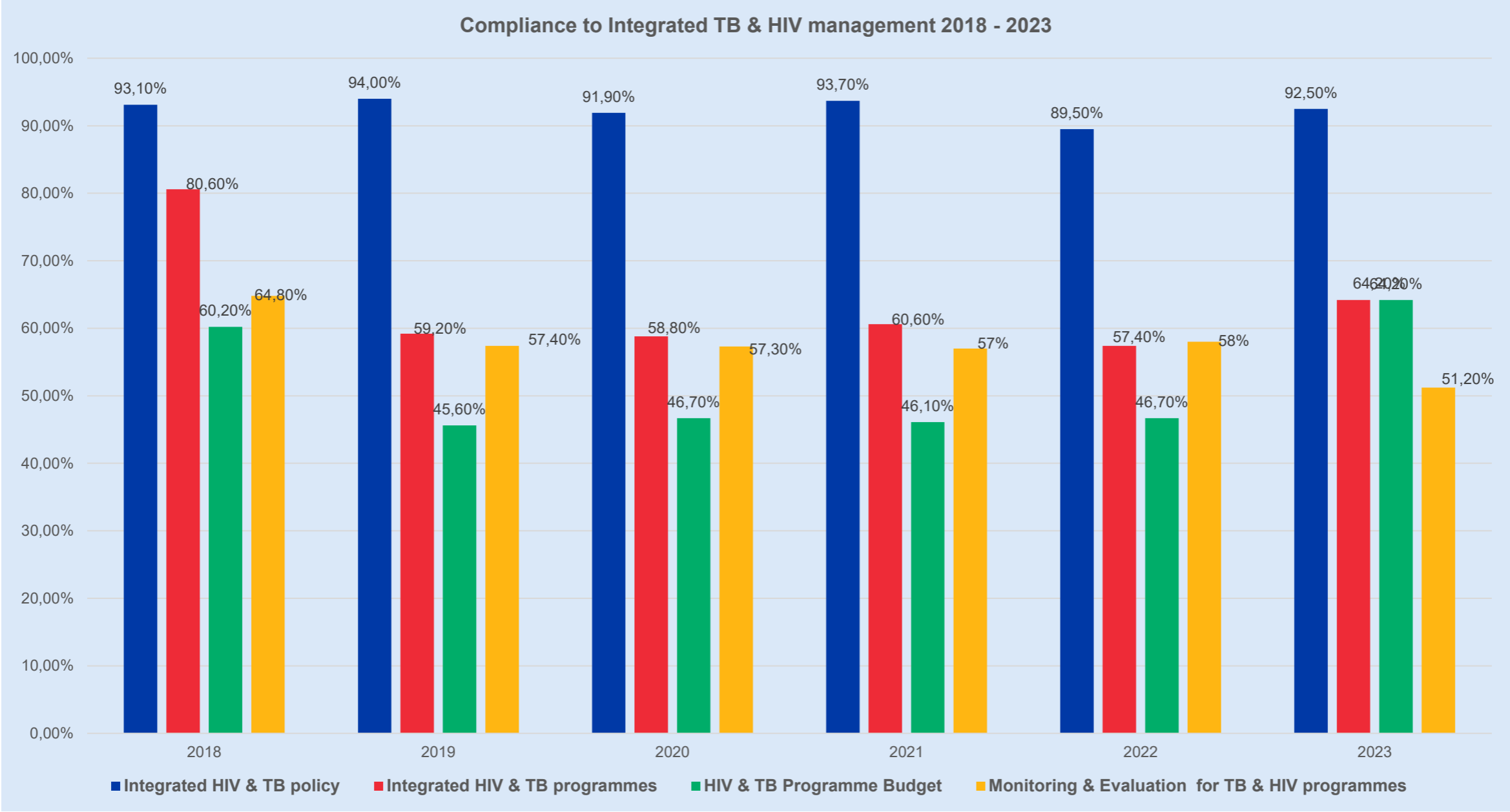


5. TB contact tracing and TB program self-reviews



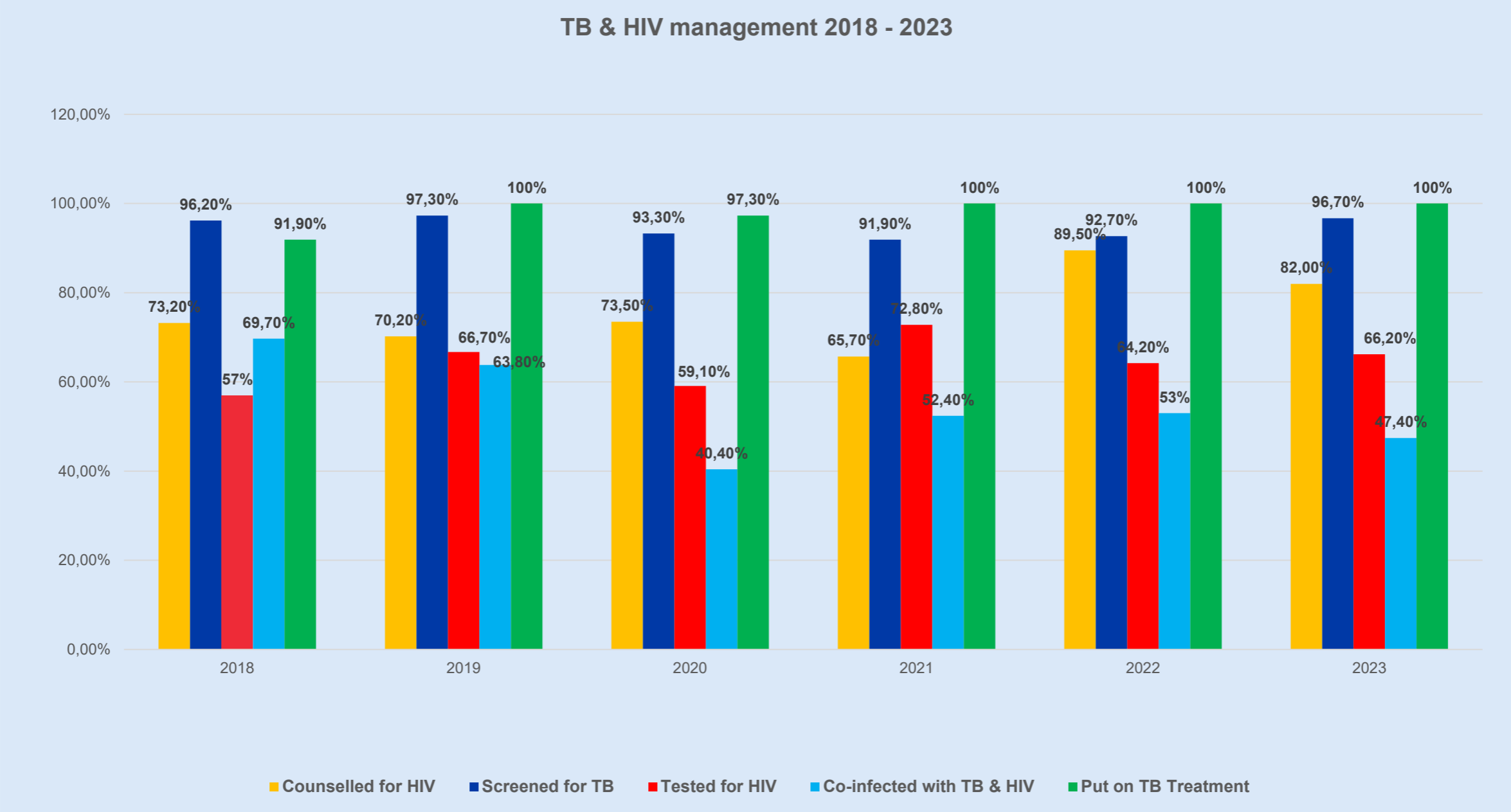
6. Treatment linkage and adherence

# CHALLENGES & OPPORTUNITIES IN TB CONTROL IN MINES



Source: Department of Mineral and Petroleum Resources

# CHALLENGES & OPPORTUNITIES IN TB CONTROL IN MINES

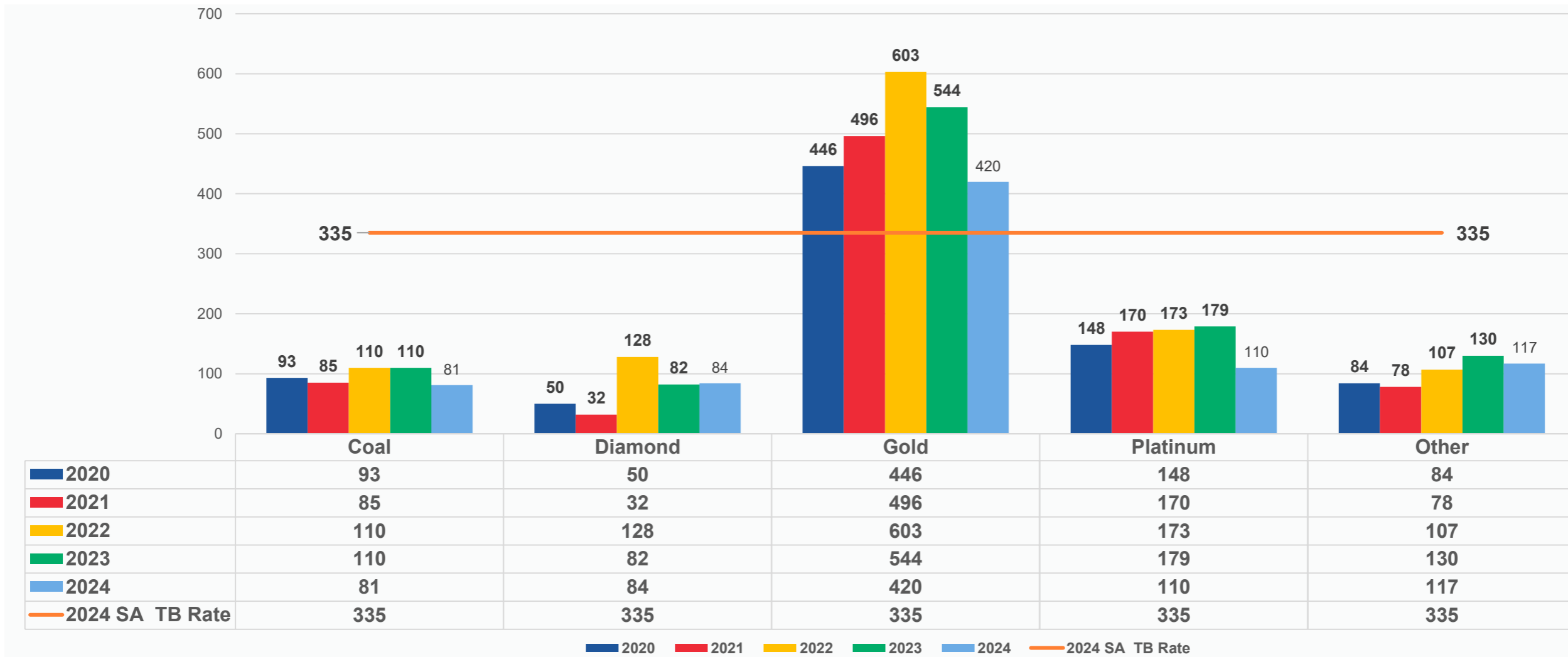


Source: Department of Mineral and Petroleum Resources

# TB INCIDENT RATE PER 100,000 EMPLOYEES PER COMMODITY 2020 – 2024 vs SA NATIONAL RATE



Ensure Mining Industry TB rate stays below SA National TB Notification Rate



# CHALLENGES & OPPORTUNITIES IN TB CONTROL IN MINES

## INTERNAL INSIGHTS

- 1. TB incidence in Gold:** TB rates within the gold sector remain high, estimated at **420 cases** per **100,000 individuals** in 2024. This is equal to the incidence rate of the general population in 2022.
- 2. Silica dust:** Mine workers are at a **higher risk** of contracting TB due to prolonged exposure to silica dust, poor living conditions and high HIV prevalence in mining communities. The combination of these factors significantly increases the vulnerability of miners to TB.
- 3. Drug-resistant TB:** Incidence of multidrug-resistant (MDR) and extensively drug-resistant (XDR) TB is a **major concern**. These strains are more difficult and expensive to treat, posing a significant public health challenge.

# CHALLENGES & OPPORTUNITIES IN TB CONTROL IN MINES

## INTERNAL INSIGHTS

- 4. Cross-border health issues:** Approximately **10% of mineworkers** in South Africa originate from neighbouring countries such as Mozambique, Swaziland and Lesotho. The circular movement of mineworkers across provincial and national borders, coupled with a poor cross-border **health referral system**, fuels infection rates and adversely affects adherence to TB treatment.
- 5. Late reporting and stockouts:** Challenges such as **late reporting** by contractors and TB treatment stockouts further complicate the management of TB in the mining sector.

# CHALLENGES & OPPORTUNITIES IN OLD CONTROL IN EX-MINERS



1. Education and awareness of ex-mine workers– OLD booklet



2. Strengthening national employee databases and registries for occupational disease



3. Regular health screening for lung diseases (BME)



4. Access to legal aid & support for Compensation for Occupational Injuries & Diseases (COIDA & ODMWA?)



5. Psychosocial support for dealing with disability, stigma and unemployment



6. Pulmonary rehabilitation programs for improving lung function and quality of life

# OTHER CHALLENGES

## HEALTH CONDITIONS

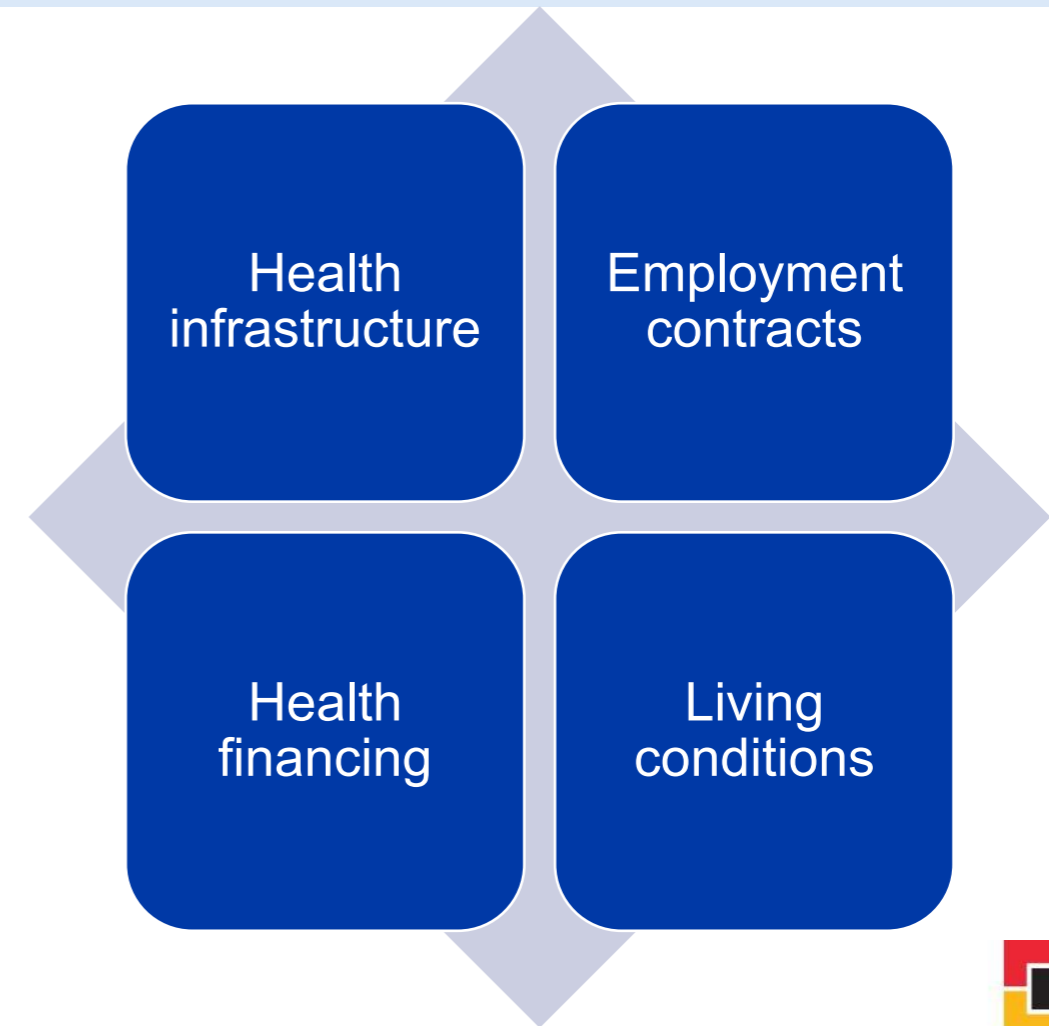
### NCDs

- HPT
- Diabetes
- Cardiovascular diseases
- Obesity

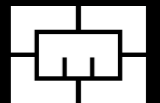
### Mental Health

- Alcohol and substance abuse
- Anxiety and depression

## CONTEXT



# BEST PRACTICE IN OLD MANAGEMENT



# INTERVENTIONS

## TRIPARTITE (MINE HEALTH AND SAFETY COUNCIL)

### Research

Occupational hygiene

Occupational medicine – Use Computer Aided  
Diagnosis & Ultra-portable X-rays

### New 2024 Milestones

Elimination of occupational lung diseases

Elimination of NIHL

Elimination of TB and HIV

Women in Mining

NCDs

## MINERALS COUNCIL

### Masoyise Health Programme

TB and HIV/AIDS

OLDs

NCDs

Mental health

Women's health services

### MOSH

Dust leading practices

Noise leading practices

# TB - THE PROBLEM

Inherently collaborative, health as a public good, TB as an infectious disease.

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TB management rooted in public sector.

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Support in form of medication, diagnostics, treatment and contact tracing.

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Reporting on Tier.net.

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Referral systems across provinces, countries.

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Community activities in peri-mining areas.

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**Our management of TB only as successful as our collaboration at a local level.**

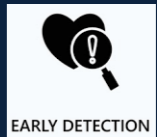
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**Close the gap between the mines and primary health care.**

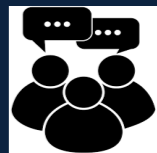


# CHALLENGES & OPPORTUNITIES IN OLD CONTROL IN MINES

- 1. Preventative Practices:** Addressing the social determinants of health is crucial. This includes improving living conditions, nutrition and access to healthcare services for mineworkers.
- 2. Infection and Dust Control:** Implementing strict infection control measures to prevent the spread of TB. This includes regular screening, use of personal protective equipment (PPE), and ensuring proper ventilation in mines.
- 3. Early Detection and Treatment:** Ensuring timely and accurate diagnosis of TB cases. This involves regular health check-ups, use of advanced diagnostic tools and prompt initiation of treatment.
- 4. Community Engagement:** Mobilising and involving communities in TB prevention and control efforts. This includes educating mineworkers and their families about TB, reducing stigma and promoting adherence to treatment.
- 5. Cross-Border Health Strategies:** Managing the circular migration of mineworkers by establishing cross-border health referral systems and ensuring continuity of care for migrant workers.
- 6. Integrated Wellness Programmes:** Developing integrated wellness programs that address TB, HIV, silicosis and other occupational respiratory diseases. These programmes should be accessible to all mineworkers, ex-mineworkers and their families.
- 7. Monitoring and Evaluation:** Regularly tracking treatment outcomes and evaluating the effectiveness of TB management programmes (TB audit tool). This includes using data to inform policy and practice, and ensuring accountability.



EARLY DETECTION



# BEST PRACTICE IN OLD MANAGEMENT IN THE MINES

## EXTERNAL INSIGHTS

- 1. Harmonised Treatment Protocols:** Establishing harmonised TB treatment protocols across the mining sector to ensure consistency and effectiveness in TB management.
- 2. Cross-Border Tracking Database:** Creating a cross-border tracking database and referral system for migrant workers to ensure continuity of care for OLDs and reduce TB transmission.
- 3. Health Reform Efforts:** Implementing health reform efforts that focus on TB and OLD control in the mining sector.
- 4. Person-Centred Stigma Interventions:** Developing specific person-centred targeted stigma interventions that are co-developed with TB-affected community members and health workers and address the specific experiences and drivers of stigma in the mining sector.
- 5. Cross sector collaboration:** Build relationships with nearby clinics and hospitals to ensure tracking of referred patients.
- 6. Contractor Management:** Address contractor management issues in the mining industry, late reporting, contact tracing and treatment adherence.

# CONCLUSION



- The mining industry has unique health challenges.
- Significant progress has been made through tripartite and industry initiatives.
- Big step changes must be taken to get to zero TB infections.
- Elimination of occupational lung diseases should be fast-tracked.
- Collaboration between public and private sector critical for improving health of employees and communities.



Anglo American Platinum – Dishaba Mine

# Thank you

# #MiningMatters

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