



Resources Safety & Health
Queensland

Biannual Health Surveillance Report

March 2023

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INTRODUCTION

Resources Safety and Health Queensland (RSHQ) advances its vision of zero serious harm by providing effective risk-based safety and health regulation and promoting improved health outcomes. This includes analysis and sharing of health surveillance data RSHQ collects.

The objective of reporting this information is to inform on the effectiveness of controls that aim to prevent health harms and to support RSHQ's risk-based regulatory activity. The report continues RSHQ's monitoring of occupational lung diseases and starts to broaden reporting to other health harms.

Mine dust lung diseases (MDLDs), are generally caused by long-term inhalation of high concentrations of airborne dust, generated during mining and quarrying activities. MDLDs include a range of occupational lung conditions, including pneumoconioses such as silicosis, and non-pneumoconioses such as chronic obstructive pulmonary disease (COPD) and lung cancer. You can find out more about MDLDs [here](#).

Our last report highlighted MDLD distribution across mining sector and mine type, focussing on job role and work experience trends. This report builds on this information, following further review of worker histories.

And for the first time, information is also included about reports to RSHQ of sexual harassment (including sexual assault) in the Queensland resources sector.

Reports or complaints of sexual harassment and assault can be made via RSHQ's dedicated
phonenumber – 1300 581 077, or by emailing a completed [complaint form](#) to
complaints@rshq.qld.gov.au.



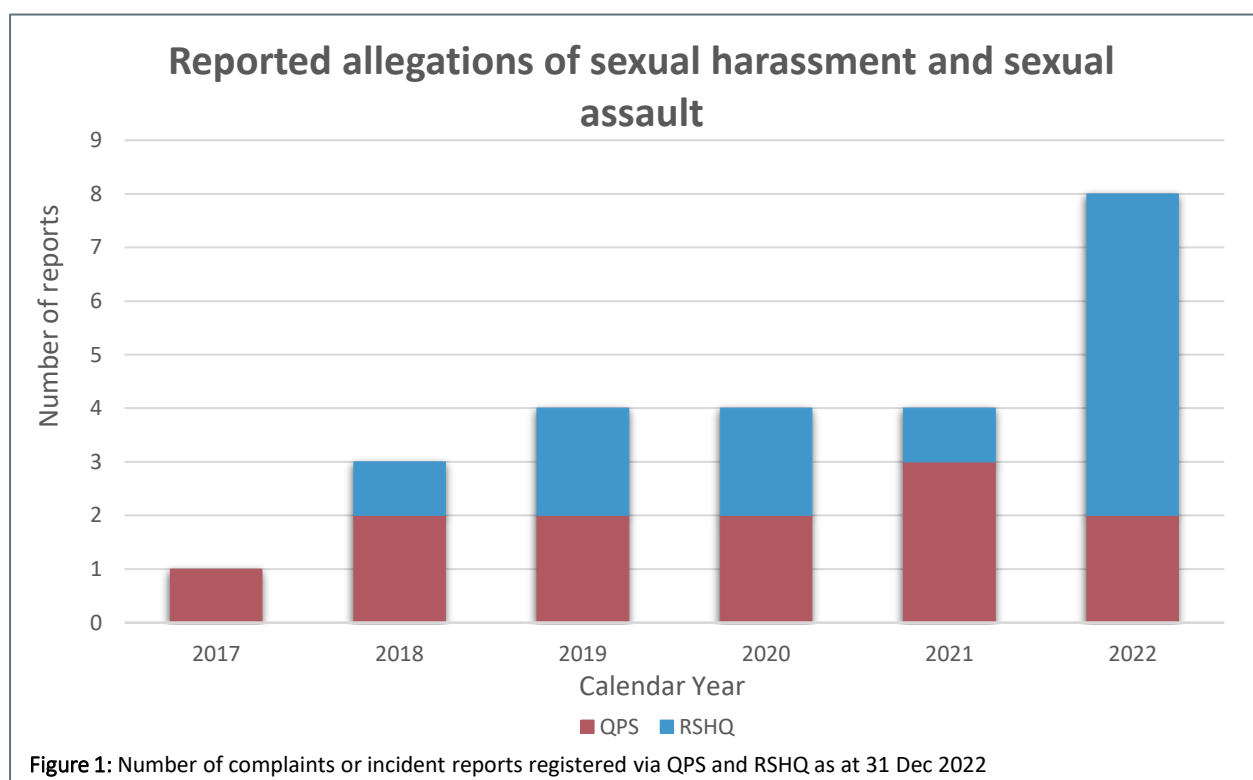
PSYCHOSOCIAL HAZARDS

Sexual harassment

The re-identification of mine dust lung disease in the Queensland mining industry demonstrated that in addition to serious safety risks, preventing disease and other health harms must also be a focus. RSHQ is adopting a risk-based approach to ensure occupational health risks are effectively managed across the resources industry for coal, mineral mines and quarries and the petroleum and gas sectors.

RSHQ is increasing its activity to ensure operators are effectively managing the risks of psychosocial hazards as part of our responsibilities for regulating workplace safety and health. RSHQ's current focus is on sexual harassment (including sexual assault), however our work will broaden to other psychosocial hazards over the longer-term.

This activity has involved a capability uplift, including a dedicated framework for receiving and responding to complaints and reports of sexual harassment, a review of internal policies and procedures, and enhanced data capture. RSHQ has designated officers, including subject matter experts in psychology, who have undertaken additional training in the response and investigation of complaints and reports of sexual harassment. A dedicated phone number has been established and further information is available on [RSHQ's website](#) for both operators and workers, which includes resources on managing the risks of sexual harassment and how workers can make a confidential complaint to RSHQ.



As indicated in **Figure 1**, since the 2017 calendar year, there have been 24 reported incidents or complaints of sexual harassment or assault in the resources industry reported to RSHQ (either directly or via the Queensland Police Services - QPS). A breakdown of incident type is provided in **Figure 2**.

In 2022, the number of incidents and complaints reported directly to RSHQ increased, with a total of six reports. This increase corresponds with RSHQ promoting awareness of mechanisms to make confidential complaints to the regulator about sexual harassment in the resources industry. However, this data also highlights an under-representation of these incidents, and as such, workers are encouraged to make complaints to RSHQ if they are unable to get resolution or don't feel safe to resolve in the workplace. Industry are reminded of their obligation to report serious incidents and high potential incidents to RSHQ that relate to psychosocial hazards, such as sexual harassment.



Operators are required to ensure physical and psychological risks to workers' health and safety associated with psychosocial hazards (including sexual harassment) are being managed to an acceptable level. RSHQ will be undertaking ongoing initiatives, including audits, to ensure Queensland resources industry workers are protected from sexual harassment and assault in the workplace.

Report sexual harassment to RSHQ

To lodge a complaint or report an incident call:

1300 581 077





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MDLD CASE SUMMARY

MDLD cases are reported to RSHQ from a variety of sources that include health assessments, the workers’ compensation scheme, site senior executive (SSE) reporting and Queensland Health’s Notifiable Dust Lung Disease (NDLD) Register. As of 31 December 2022, 334 cases of MDLD have been reported to RSHQ since 1984 for both current and former workers across coal, mineral mine and quarry sectors (see **Figure 3**). This is an increase of 59 cases since the last report. The increase reflects a higher number of diagnoses reported from former worker assessments and accepted workers’ compensation claims. Almost half of cases reported to RSHQ in the last six months are former workers. Only a small number of additional cases were reported via the NDLD Register, as the majority of cases reported via the register were already known to RSHQ.

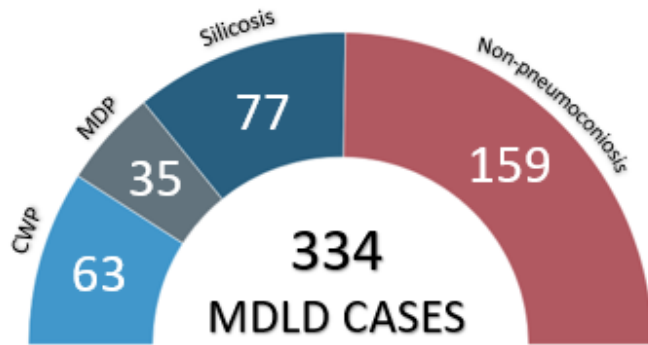


Figure 3: Assigned pneumoconiosis category (includes Multiple MDLD)

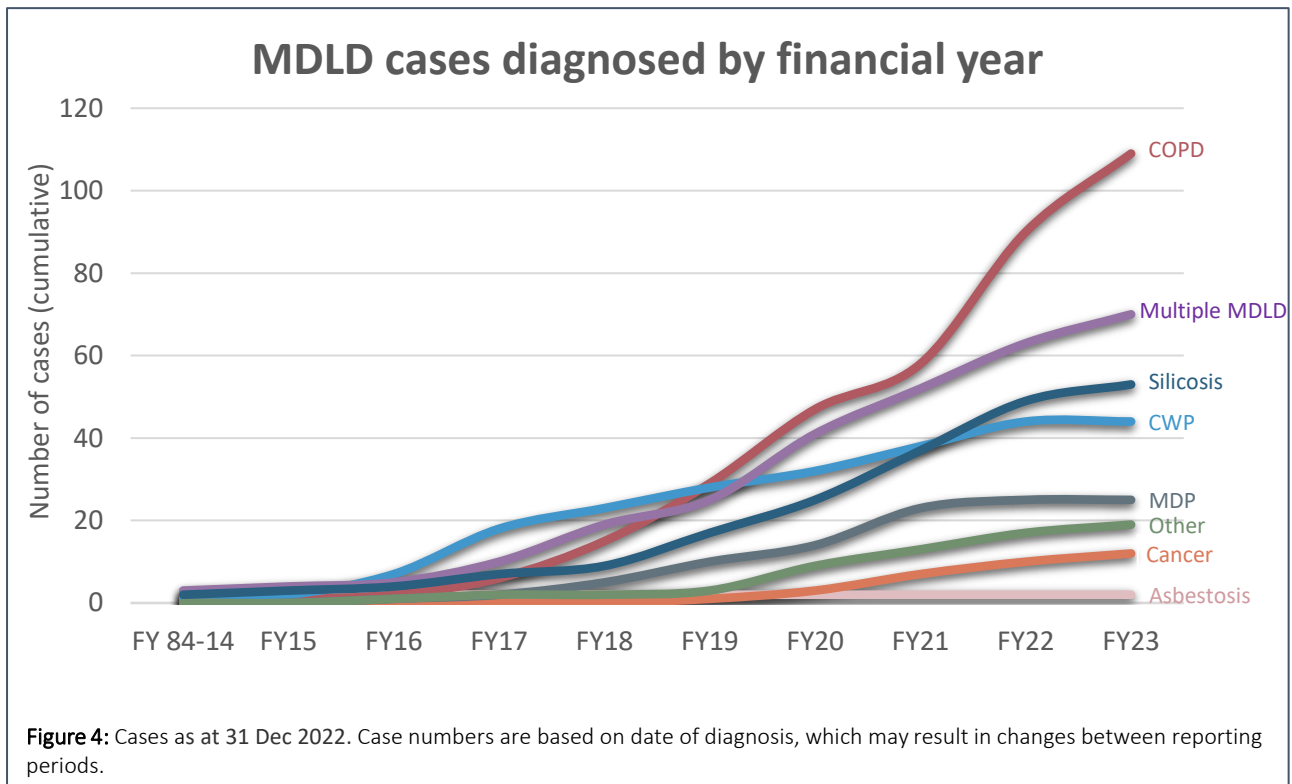
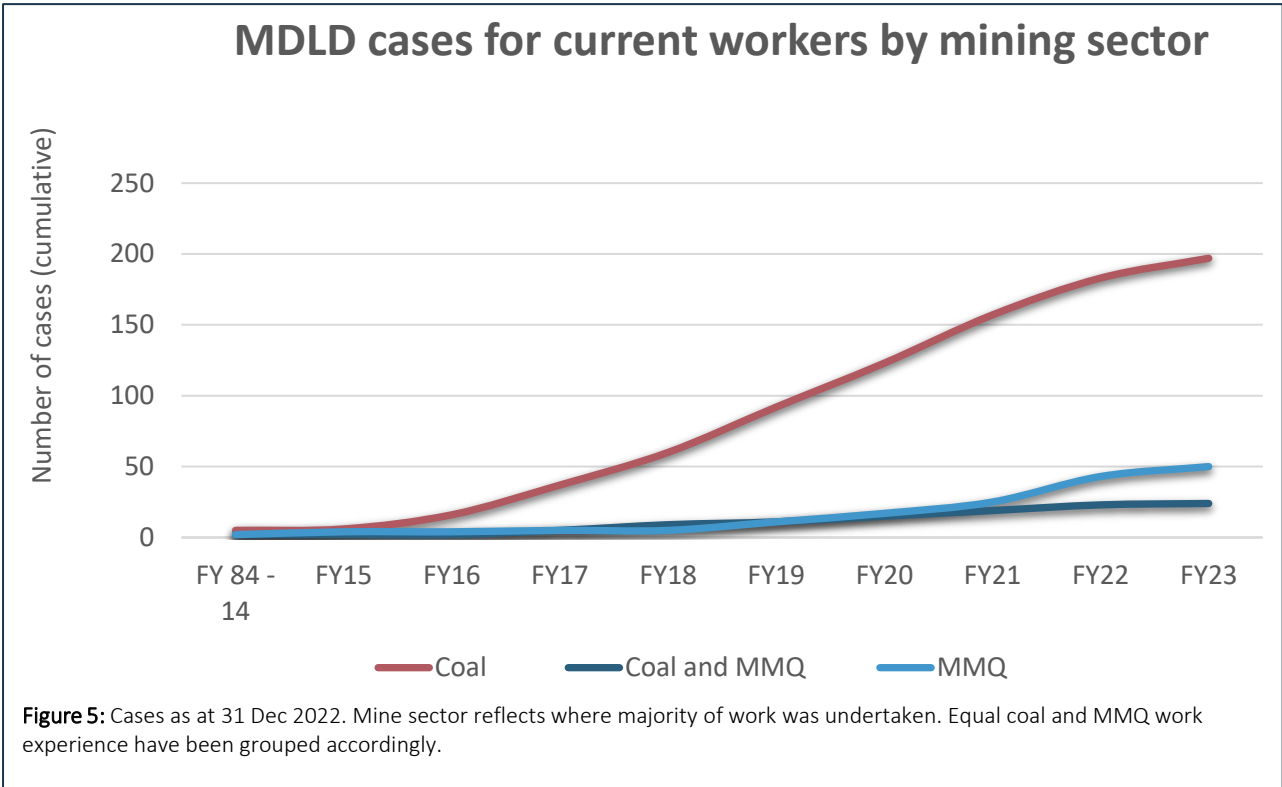


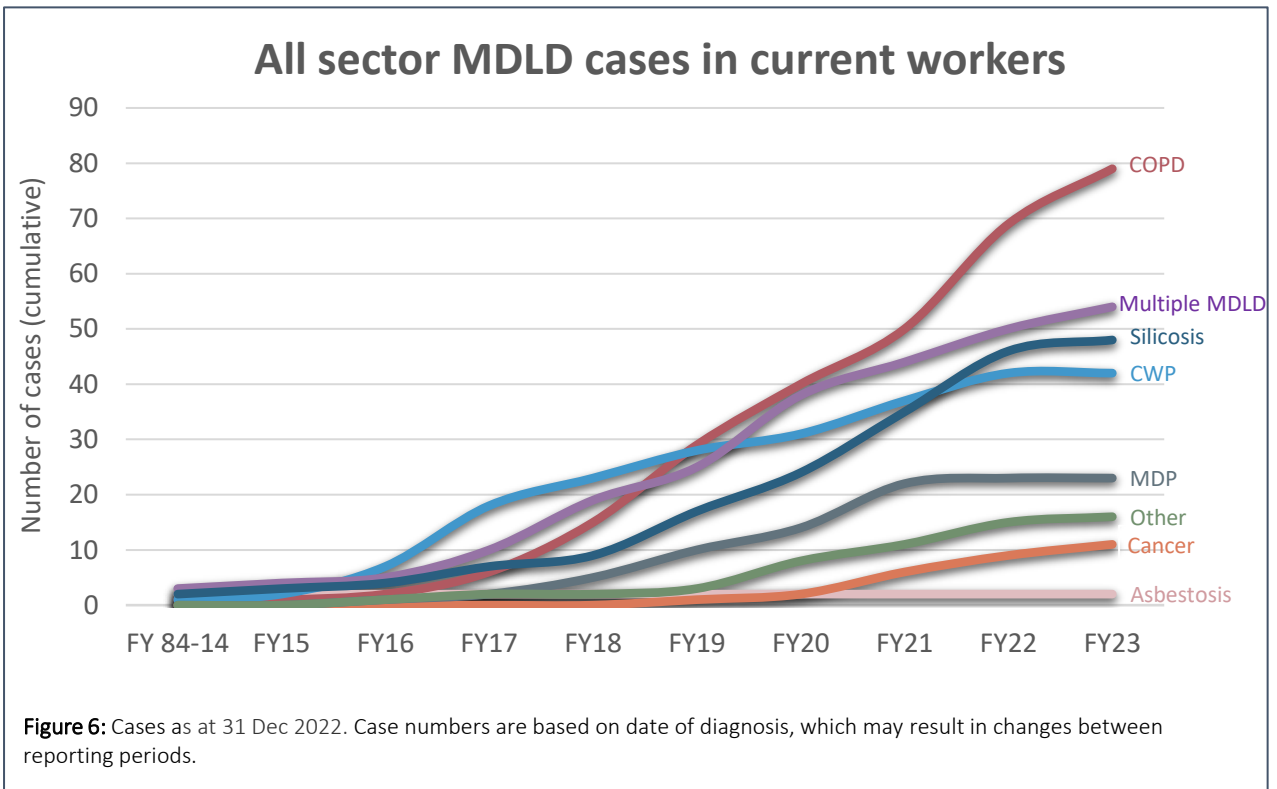
Figure 4: Cases as at 31 Dec 2022. Case numbers are based on date of diagnosis, which may result in changes between reporting periods.

COPD remains the most common disease type among reported MDLD cases (see **Figure 4**). Thirty cases of COPD have been reported so far this financial year. Thirteen cases with multiple MDLD have also been reported. Eight of these are a combination of COPD with pneumoconiosis.

MDLD case summary for current workers



Coal mine workers continue to represent the majority of reported MDLD cases (see **Figure 5**). This reflects the established respiratory screening program in place for the coal mining sector. The number of MDLD cases among current mineral mine and quarry (MMQ) workers continues to increase after the implementation of respiratory health surveillance for this sector in 2022.



The number of pneumoconiosis cases reported among current workers is tracking lower than at this same stage in recent financial years (see **Figure 6**). This is primarily due to a reduced rate of reported diagnoses among current coal miners. The number of pneumoconiosis cases for the MMQ sector has remained at previous rates. The lower number among coal miners may again reflect the established respiratory screening program in place.

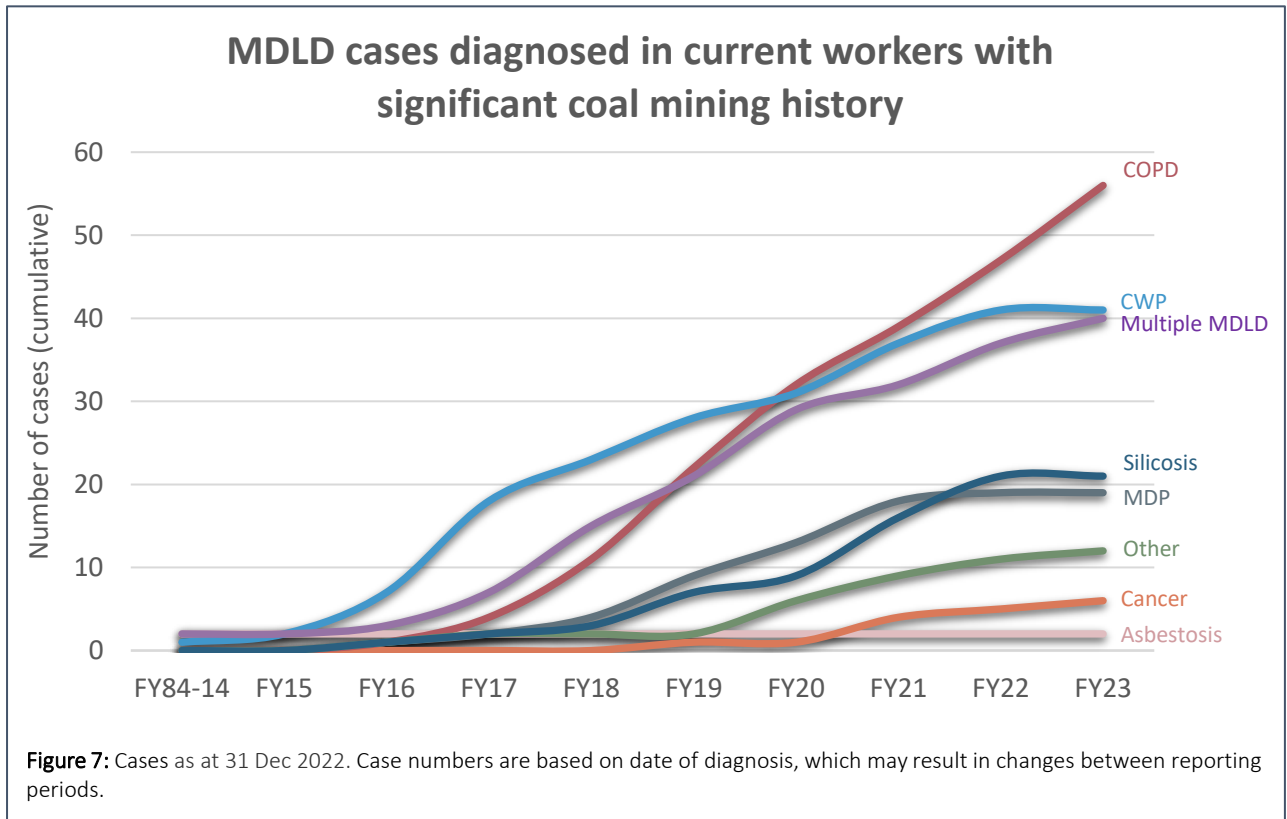


COAL SECTOR

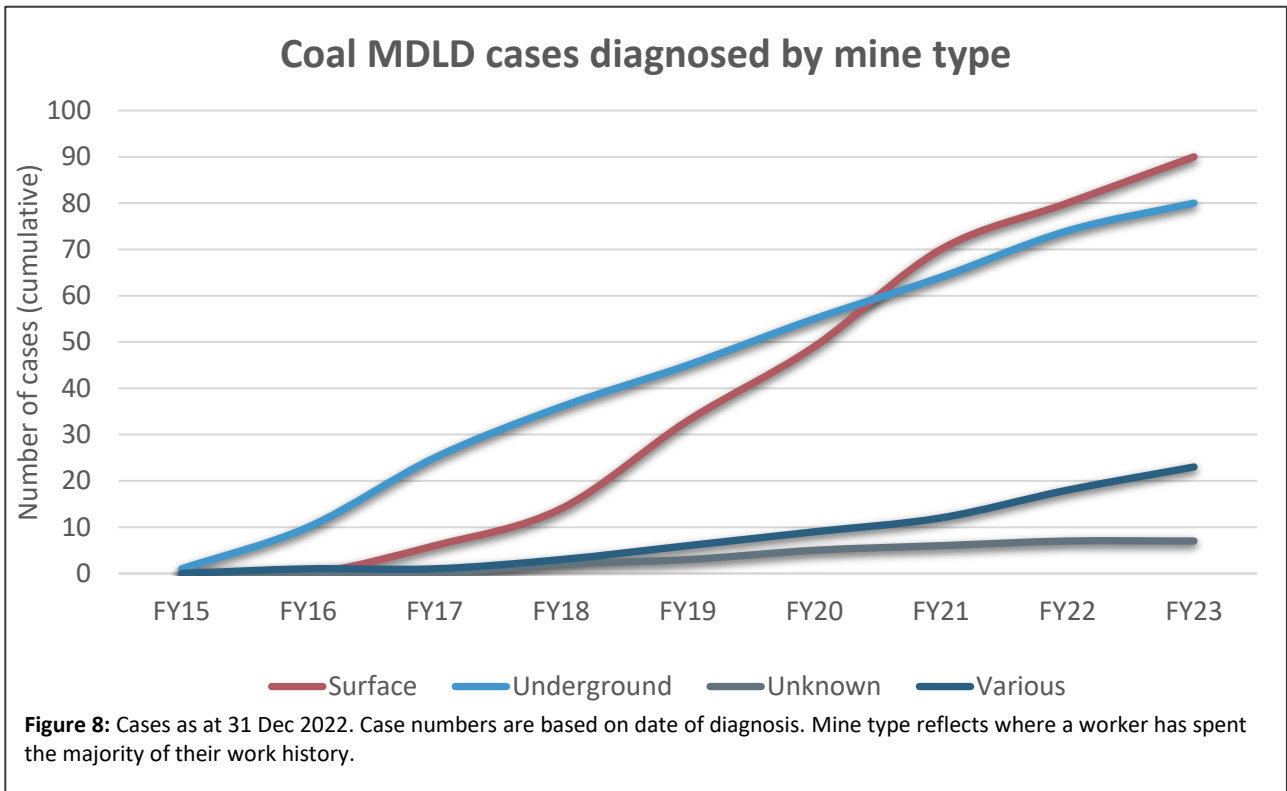
Current workers with significant coal mining history

Disease distribution for current workers

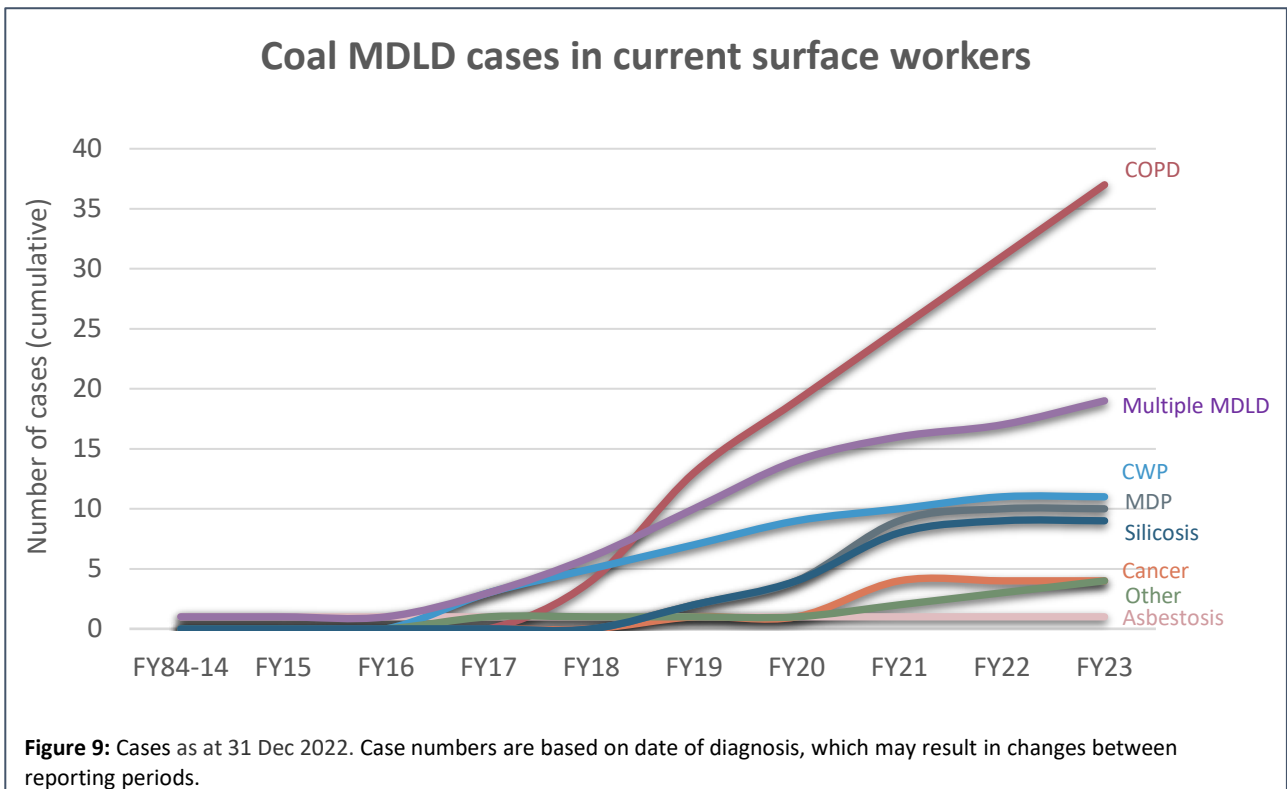
For current coal workers, the number of COPD and multiple MDLD cases diagnosed has continued to increase over the last six months (see **Figure 7**). COPD has increased at twice the rate recently seen in a six-month period. This is more prominent in surface workers than underground workers. This has contributed to the greater number of cases among surface workers reported this financial year by mine type (see **Figure 8**).

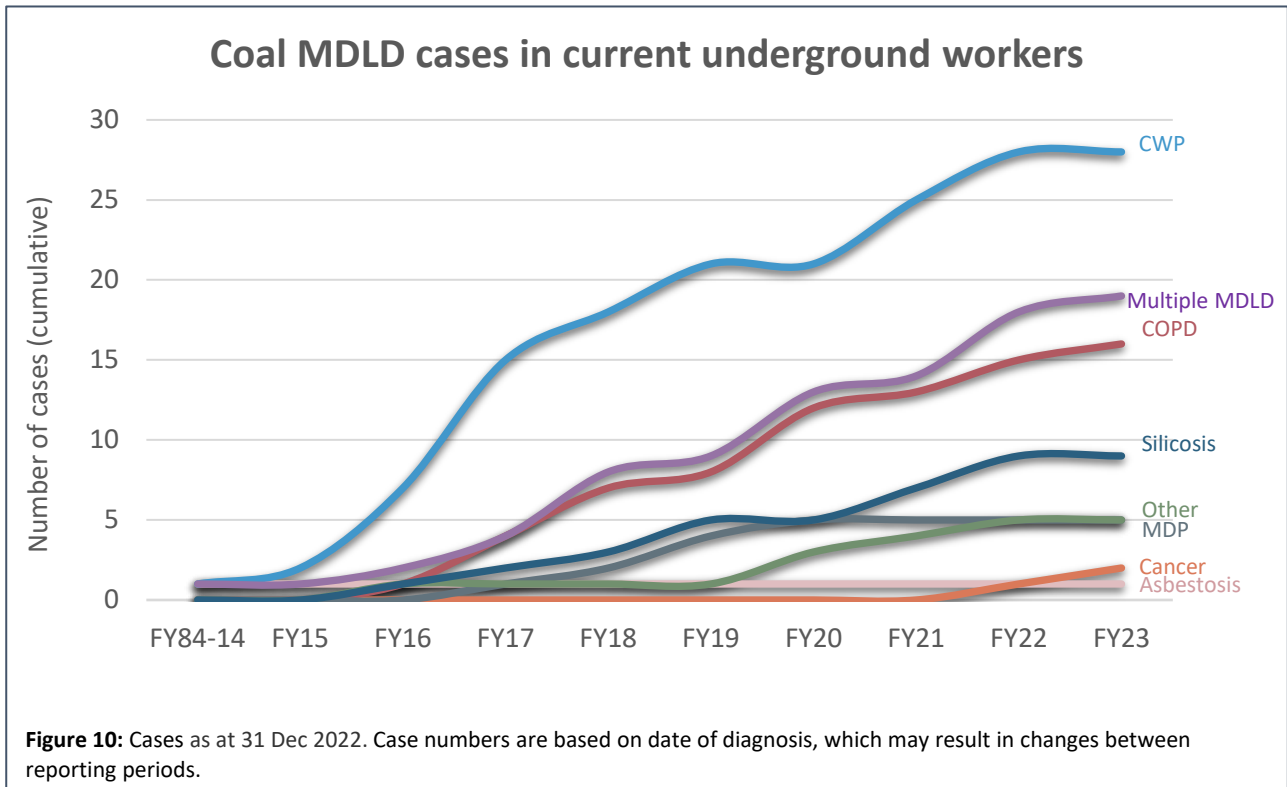


<p>15</p> <p>cases of coal MDLD reported for this financial year</p>	<p>11</p> <p>reported cases for non-pneumoconiosis this financial year</p>	<p>4</p> <p>reported cases for pneumoconiosis this financial year</p>
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Multiple MDLD numbers continue to increase at the same rate as seen in recent financial years, with a combination of COPD and pneumoconiosis as the most common diagnosis. Despite this, pneumoconiosis cases among current workers overall are tracking lower compared to the second quarter of the previous financial year and this is evident for both underground and surface workers (see **Figures 9 & 10**).





These cases continue to predominantly be among those that have worked in a production role at some stage in their career. This is consistent with a recent review of coal workers where 82 per cent of the MDLD case cohort was found to have worked in production.

From **1 April 2023**, **ResHealth** will be **mandatory**
to complete Queensland **coal mine workers' health assessments**
Are you ready?



Visit **ResHealth** to learn more
www.rshq.qld.gov.au/reshealth



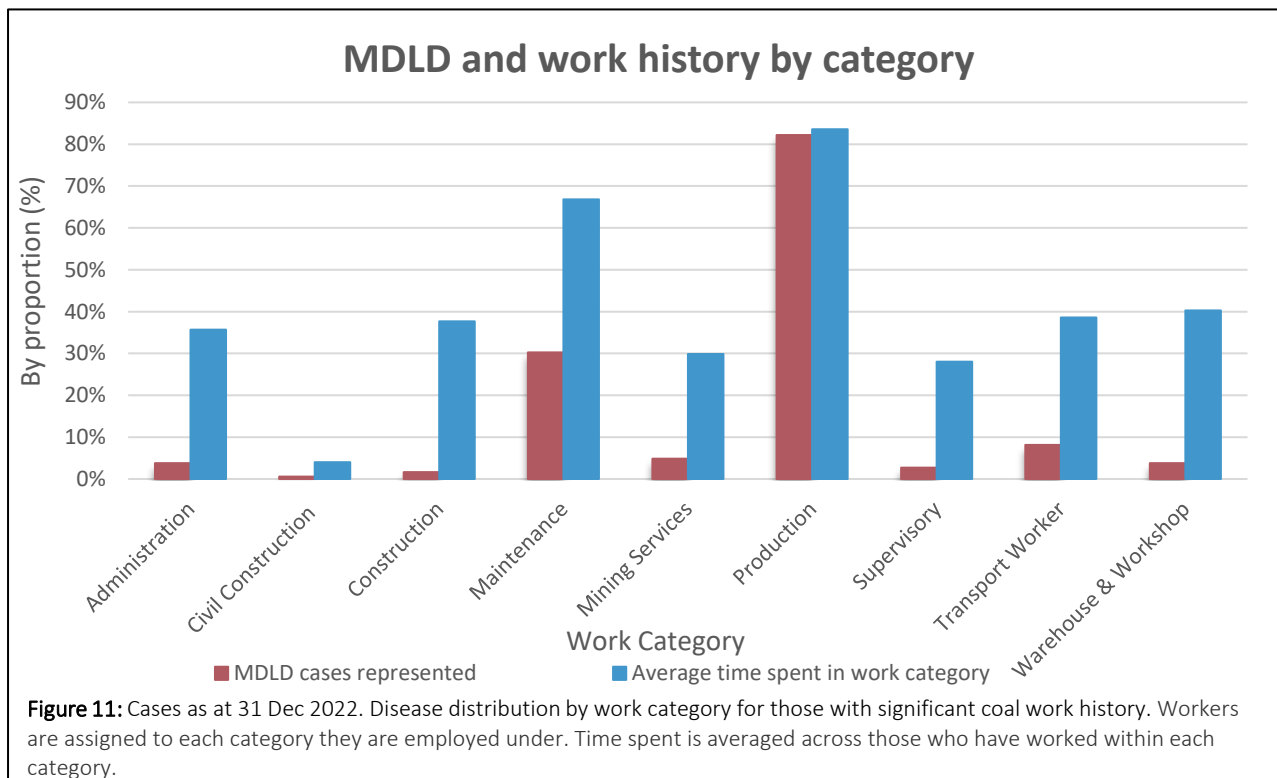
COAL MINE WORKER HISTORY OVERVIEW

Building on the findings identified in the last report, RSHQ has further reviewed work and mine type information for all coal mine workers diagnosed with MDLD to better understand risk and disease profiles. The review identifies a mobile work force with variability in a range of areas, including in position, sector, and location.

Work category analysis

Coal mine workers reported as being diagnosed with a MDLD (n=208) were reviewed in areas of work categorised by position to better understand risk factors. Of these 208 workers, 184 have significant coal mining history. Production workers are most represented among this cohort, with 82 per cent (n=152) involved in a production role at some time throughout their career. For those workers with production experience, they on average spent 84 per cent of their career in this category. Production incorporates a wide range of roles such as operators, drilling and supervisory positions, and includes some development roles as the stated position titles for workers in production and development categories are often poorly differentiated.

Maintenance is the next most represented category with 30 per cent (n=56) of those with significant coal history working in this area at some stage (see **Figure 11**).



Among reported MDLD cases with significant coal history, 60 per cent of workers (n=111) remained in a single work category throughout their careers. All but one of these workers was

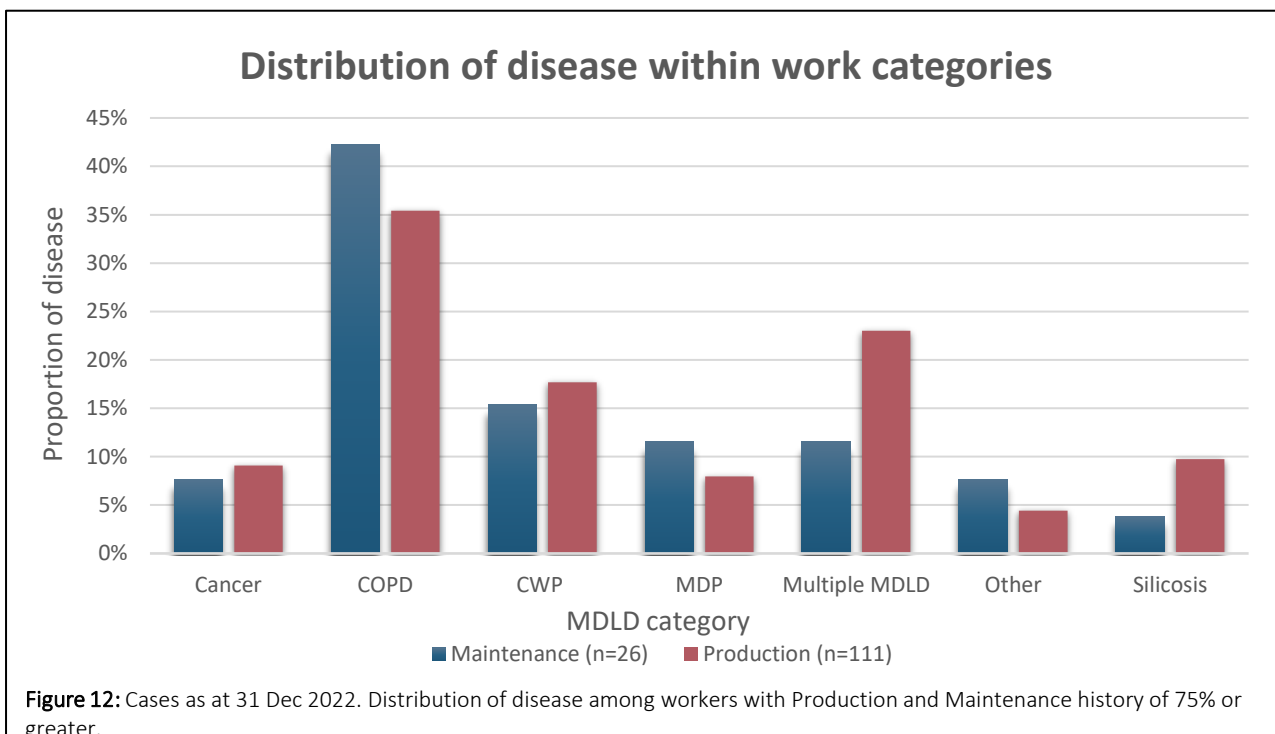
involved in either production or maintenance. By comparison, workers in other work categories are more mobile, with diagnosed workers from categories such as construction, supervisory, warehouse and workshop more likely to undertake roles across multiple categories during their careers. For example, workers with construction experience only spent on average 38 per cent of their career in this category.

Work category and disease distribution

In contrast to the high proportion of workers remaining in a single work category, diagnosed workers are generally mobile across multiple mine sites during their career. Only 14 per cent of those with significant coal mine history remained in the same site location across their working career (see [Case Study 1](#) for an example).

This emphasises the potential impact of cumulative dust exposure across sites throughout workers’ careers. Health surveillance should consider prior exposures as well as workers’ current role/location. Prevention and monitoring also remain important for workers who are in mobile roles that are shorter duration on any one site.

The most common disease type among diagnosed workers with substantial history in either production or maintenance work groups is COPD (see **Figure 12**). The proportion of workers diagnosed with a pneumoconiosis was higher among those with substantial production experience. As the number of diagnosed workers are still relatively small, particularly among those with significant maintenance work, this will require further monitoring over time to confirm trends.



Jurisdiction breakdown

An initial review of work locations for coal mine workers diagnosed with MDLD shows that while the majority spent most of their work history in the Queensland coal mining sector, there is a small subset comprising 23 per cent of workers who spent substantial amounts of time in other jurisdictions. These workers have undertaken mining roles internationally or interstate. Although these numbers are small, they offer some insight to workforce movement.

International work history

Most workers with international experience had overseas coal production histories with a median of 18.5 years of overseas mining experience, comprising of up to half of a worker's career. Similar to those with Queensland production work histories, these workers have higher rates of pneumoconiosis diagnosed at 81 per cent for those with international experience.

Interstate work history

Fifteen percent of diagnosed workers have coal mine work experience outside of Queensland, with mining experience from most Australian states and Northern Territory represented. These workers were often employed in roles that are conducive to movement across mining locations, and this is reflected in the mobility seen in some workers' mining histories across jurisdictional and industry boundaries (see [Case Study 2](#) as an example). The median time spent in interstate roles was 8.5 years. For the majority of these workers, interstate work constituted a minority of their total mining history, with half of these workers having spent less than 25 per cent of their career in interstate roles. However, there is high variability in the proportion of interstate work history, with several workers having spent more than 75 per cent of their career in interstate roles.

Coal MDLD cases for workers with interstate history

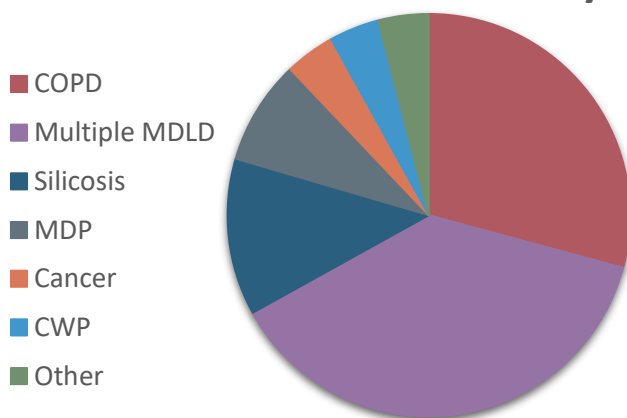


Figure 13: Cases as at 31 Dec 2022. Distribution of disease of coal mine workers with interstate work experience. This represents those workers with significant coal mine history only.

Workers with interstate coal mining experience presented different patterns of disease to those seen in the broader population of diagnosed workers. Multiple MDLD is the most common category of disease reported (see **Figure 13**) and includes cases both with and without a pneumoconiosis as one of the diagnosed conditions. Silicosis and COPD are also common diagnoses among this cohort.



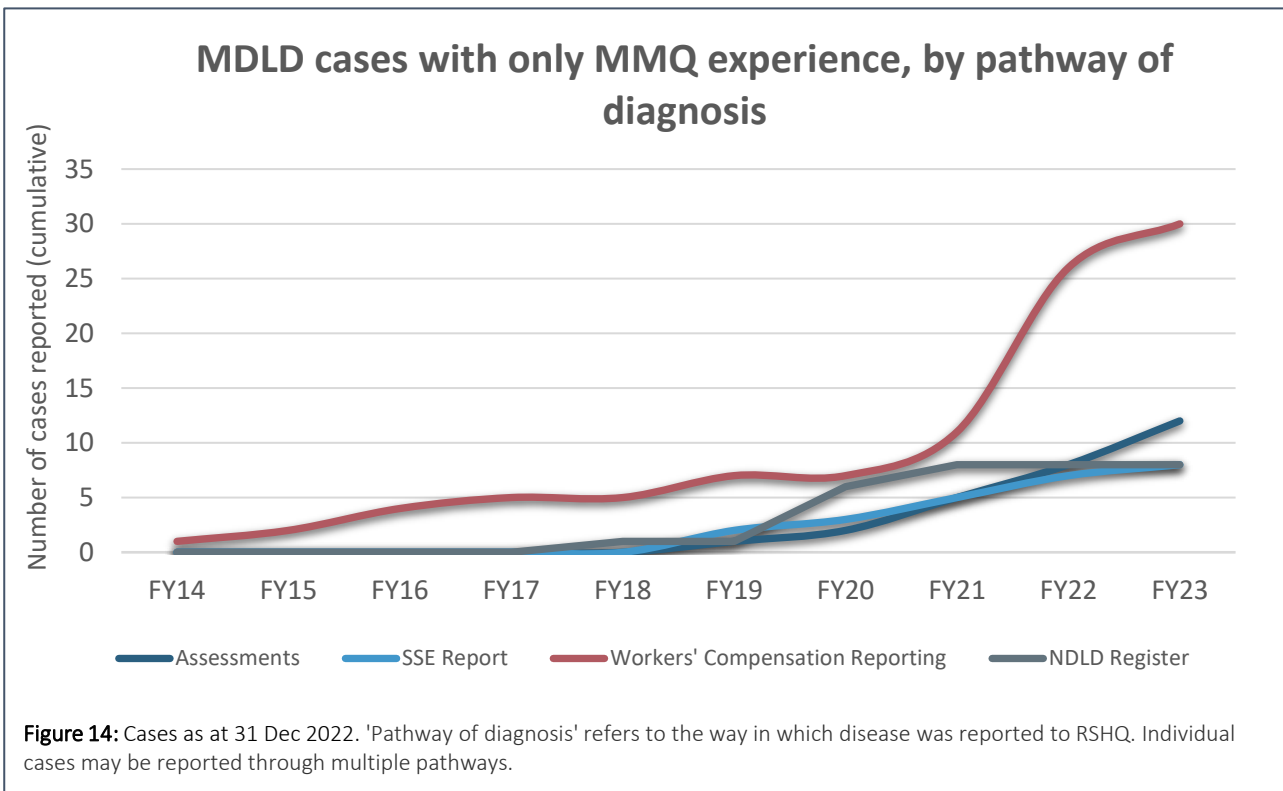
MINERAL MINES AND QUARRY SECTOR

Current workers with significant MMQ history

Disease reporting for current MMQ workers

MDLD cases are increasingly reported in the mineral mining and quarry sectors, in line with increasing awareness of MDLD and the introduction of mandatory respiratory health surveillance.

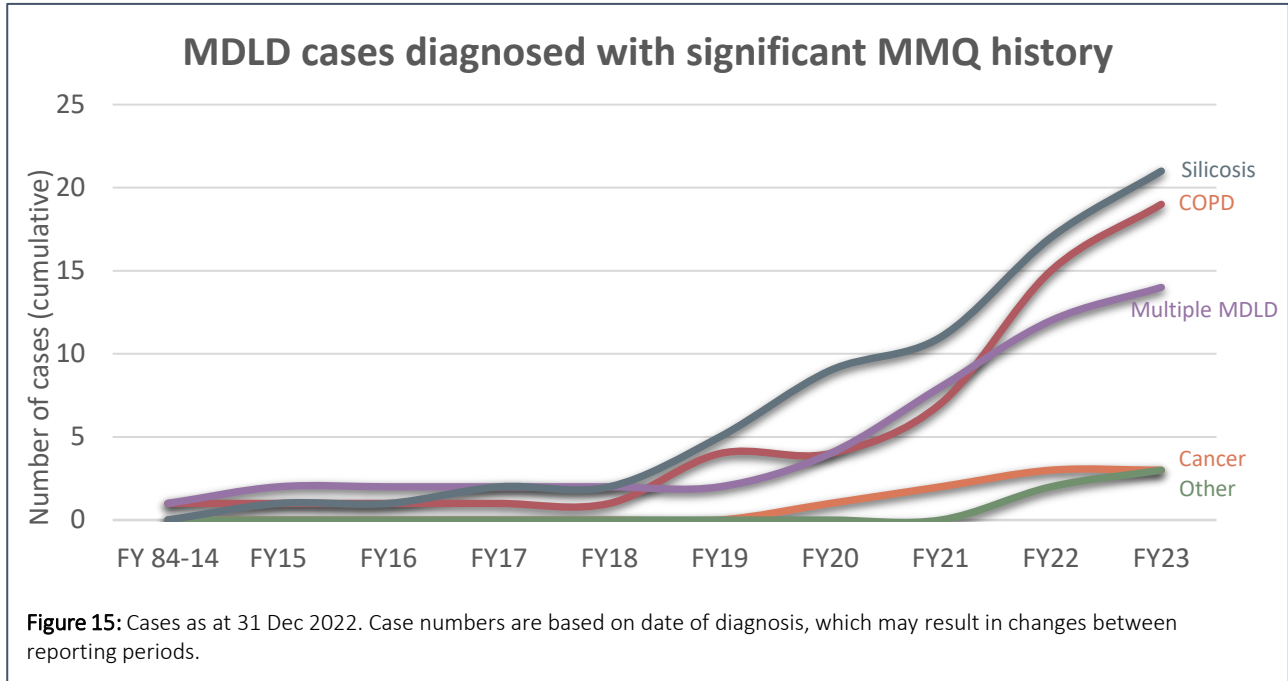
SSE reports to RSHQ inspectors about cases of MDLD are particularly important in the MMQ sector. SSE reporting for diagnosed MMQ workers remains below what RSHQ expects to receive based on cases reported via other reporting pathways (see **Figure 14**). SSEs are required to undertake this reporting under the *Mining and Quarrying Safety and Health Act 1999*. This extends to the exploration sector.



Key Takeaway:

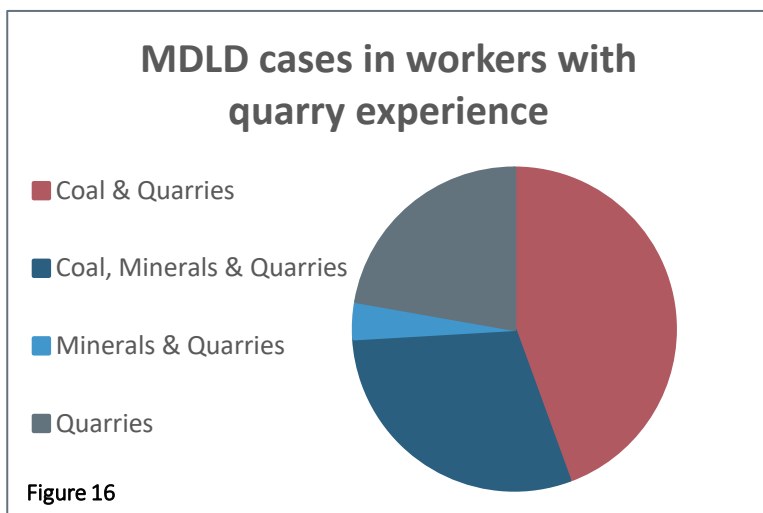
SSE reports currently form only a small proportion of the case reports for MMQ workers, SSEs may not be aware of their obligation to report all instances of prescribed diseases known to them. Information for SSEs about how to report disease to RSHQ is available [online](#).

The most common diseases reported among current workers with significant MMQ history are silicosis and non-pneumoconiosis (e.g., COPD) (see **Figure 15**). The continued increase in diagnosed cases highlights the importance of health surveillance and reporting in this sector for the screening of disease and to further understand the conditions diagnosed among the MMQ cohort.



Disease distribution for quarry workers

Twenty-seven workers with some quarrying experience have been reported with an MDLD. This represents eight per cent of all reported MDLD cases. This is an increase of 10 cases since the last report. Seven diagnosed workers have only worked in the quarrying industry. The remainder also have experience in other mining sectors (see **Figure 16**). The latest reported cases have varied work histories across all the sector combinations, including diagnoses from respiratory screening programs in the coal and MMQ sectors, as well as the former worker program. This



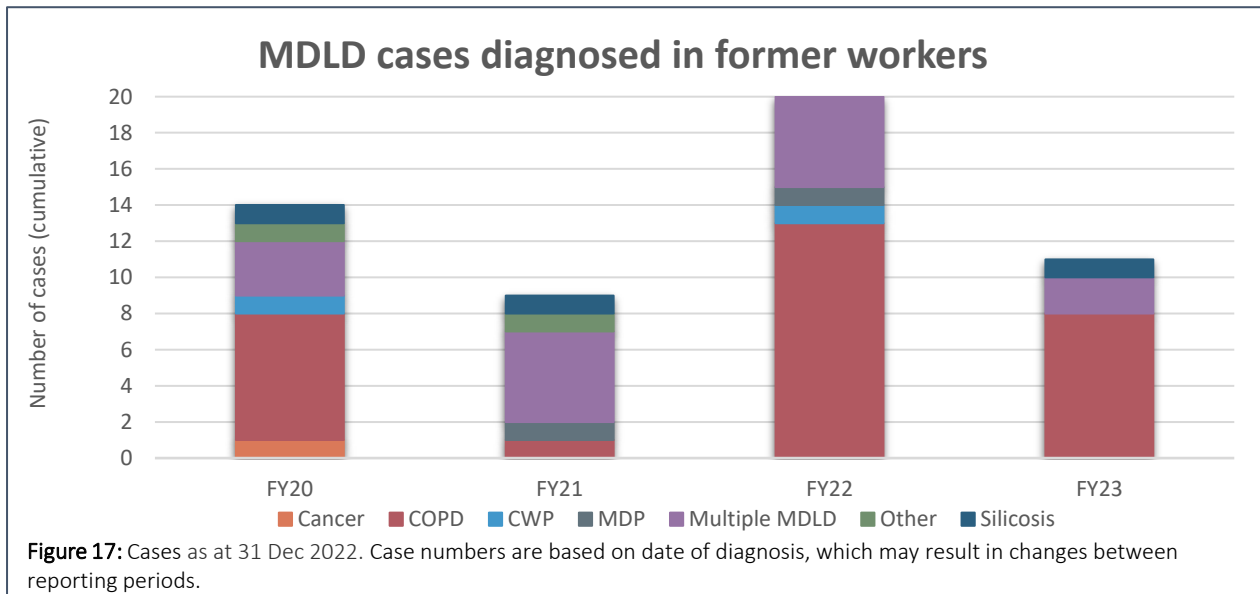
demonstrates the importance of mandatory respiratory health screening across all sectors to detect these latent onset diseases (see [Case Study 3](#) as an example).

Quarry workers are primarily diagnosed with COPD, followed by silicosis and multiple MDLD. However, the small number of reported cases limits conclusions from the cohort.

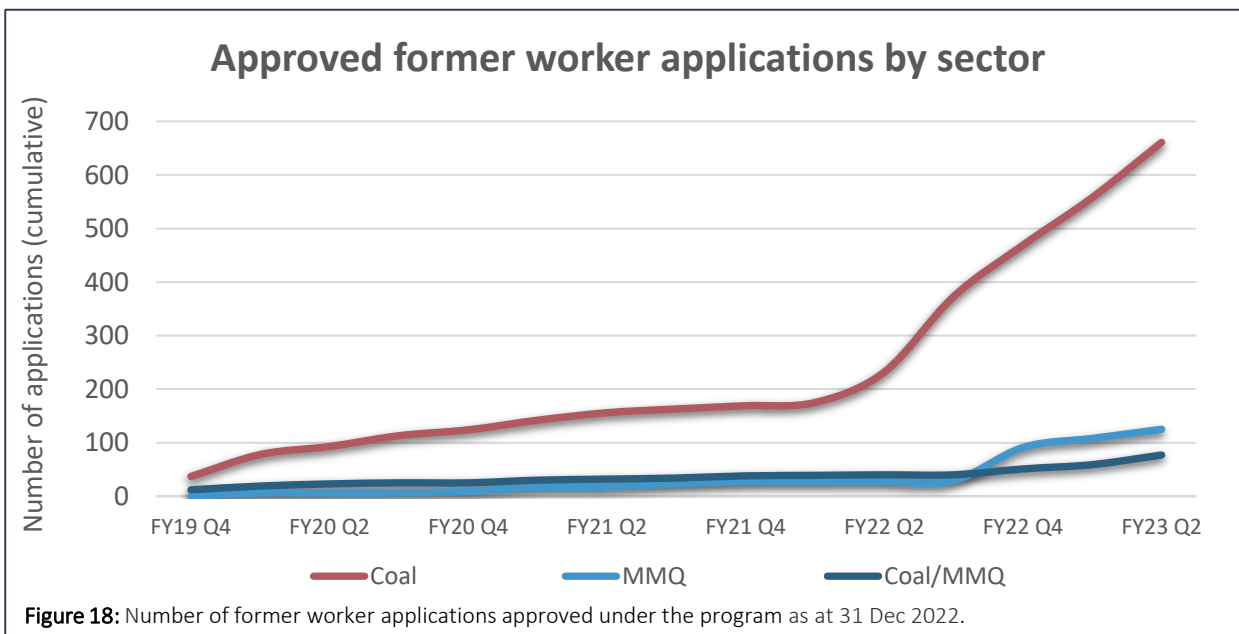


FORMER WORKER PROGRAM

RSHQ offers free, ongoing respiratory health screening for retired and former miners and quarry workers. COPD remains the most common MDLD diagnosed in former workers from this screening program and is proportionally more common when compared to current workers. A large majority of former workers who have undergone assessments were employed in the coal mining sector. Most of those cases identified have been either COPD or multiple MDLD, which often includes COPD and a form of pneumoconiosis as the conditions diagnosed (see **Figure 17**).



The number of former workers undergoing screening has continued to increase, with an additional 252 applications for the program approved in the last six months (see **Figure 18**). This increased uptake is already reflected in the number of cases reported in the last six months and is likely to identify further disease.



CASE STUDIES



Case 1 - COPD

- Driller
- Open cut coal, same site

Current worker, up to 19 years' work history at the same open cut coal mine as part of a drilling team. Worked in an air-conditioned cabin, however dust exposure was noted. Former smoker. Highlights the importance of improved dust minimisation practices and ongoing health surveillance.



Case 2 - MDP

- Fitter
- Multiple sites

Former worker, 40+ years' work history in positions as a fitter across various site locations, spending on average four years per site. 30+ years spent at interstate mines. Current smoker. Highlights the potential accumulative exposure over time.



Case 3 - Silicosis

- Operator
- Quarry sector

Current worker, 30+ years' work history in the quarry sector. Located within processing plant with potential of high dust exposure. This highlights the importance of regular exposure monitoring and dust management measures, as well as respiratory health screening for all workers to detect these latent diseases.