PORT HEALTH & SAFETY LEADERSHIP GROUP

Port Sector Insights Picture and Action Plan

Building a high-performing, resilient port sector where people thrive, and worker health and safety is prioritised through high-trust, tripartite collaboration

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Foreword

As a response to the recent tragic deaths of two port workers in Auckland and Lyttelton, the Minister of Transport, Hon Michael Wood, requested that the Port Health and Safety Leadership Group (the Leadership Group) provide him with advice on a collective set of actions, including regulatory standards, to address harm on New Zealand ports.

This was alongside an independent investigation to be undertaken by the Transport Accident Investigation Commission, a Maritime NZ investigation, and joint Health and Safety at Work Act assessments at ports undertaken by Maritime NZ and WorkSafe New Zealand.

The Leadership Group, reformed in 2021, is made up of port and stevedoring companies, unions, Port Industry Association, Maritime NZ and WorkSafe New Zealand representatives. Our vision is to deliver:

"A high-performing, resilient port sector, where people thrive and worker health and safety is prioritised through high-trust, tripartite collaboration"

To develop the advice to Ministers the Leadership Group undertook to provide three things: this Port Sector Insights Picture and Action Plan, and a review of Good Practice. The main findings from this third piece have been incorporated into the priority actions in part two of the document.

The Port Sector Insights Picture was developed to provide a picture of where, and in what circumstances, serious injuries and fatalities are happening, and also why they might be happening. It is intended to enable better targeting of actions and activity to reduce harm. It is a truly tripartite product. It uses regulator (Maritime NZ and WorkSafe New Zealand) insights from port assessments and an analysis of the notifiable serious injuries and fatalities at ports that have occurred over the last 10 years. All ports, stevedoring companies, and one marshalling company, have also willingly provided their data on health and safety incidents into one data platform. Finally, it provides the worker voice, through a national survey, in-depth interviews, and workshops.

We thank everyone in the sector for giving their data, time, experiences, and expertise to give us a good evidence base and help target our collective effort to make the port sector safer.

This Port Sector Insights Picture shows there are positives to celebrate in the port sector. There was evidence of good practice found, for example, in use of technology, some worker engagement practices, and systems and processes. There were also examples of good leadership, for example, the Port Industry Association's work on training, or this Leadership Group itself, where regulators, operators and unions are working together to collectively solve issues, for example, the development of the Fatigue Risk Management System Good Practice. It is positive that the Port Sector Insights Picture shows over time serious injury numbers on ports have been in decline.

However, by comparison to countries like the United Kingdom and Hong Kong, our rates of death are still twice or three times as common. Compared to Australia, we have a similar number of fatalities but Australia moves significantly more cargo. Notifications data, and sector incident reporting, also shows an increase in serious injuries and incidents. In part, this is likely to be attributed to challenges around congestion and workforce issues. Further, the Port Sector Insights Picture highlights a number of critical risks and cross-cutting causes of harm which we need to focus on as a sector, in order to reduce fatalities and serious harm on ports.

Most importantly everyone deserves to go home healthy and safe. Deaths and serious injuries impact people, work colleagues, families and communities. They also impact business productivity and New Zealand's health and ACC systems, and make the port sector, a critical enabler of a range of economic and social outcomes, a less attractive place to work.

We all can do better – boards, leadership, managers, workers, unions and regulators – to prevent serious injuries and fatalities from occurring, but it will take individual and collective action to achieve the change needed.

The Action Plan provides six initial actions that are focussed on addressing some of the issues identified. These include actions relating to: the development of an Approved Code of Practice on Stevedoring; implementing the Fatigue Risk Management System Good Practice; extending Maritime NZ's Health and Safety at Work Act (HSWA) designation on ports; actions to address workforce issues and skills; work to improve incident reporting, notifications, insights and learning across the sector; and opportunities to share good practice. Alongside these actions a multi-year programme of work, in conjunction with the sector is proposed to be developed over 2023.

The Leadership Group is committed to using these insights to support the tripartite actions. We hope individual companies also use the insights to improve practices in their own businesses and we look forward to working with everyone in the sector to deliver the actions.

He waka eke noa
A canoe which we are all in with no exception

Endorsed by

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1 Port Sector Insights Picture

1.1 Introduction

The first part of this document delivers the Port Sector Insights Picture, a national picture which represents the insights as an average across the sector. It is recognised that in all drivers and themes raised throughout this summary, individual employers will have areas of good practice, and areas where there is room for improvement. This is a first step towards understanding the full picture concerning harm impacting port workers.

The Port Sector Insights Picture seeks to inform further discussions and decisions for the Leadership Group and should be read with the Action Plan, which is outlined in part two of this document. The actions have been identified as the first priorities across the sector to address causes and drivers of harm.

Caveats and limitations of data, insights and sources

In looking at why a harm or fatality has occurred, the reasons can be multi-faceted and made up of a range of cross-cutting drivers of harm. This makes it difficult to attribute any one factor as having the biggest influence. It also means that any approach to reducing harm has to be multi-dimensional.

The overall report summarises the national picture findings from a range of information sources. Full reports from each source are available as appendices to the overarching report.

Armstrong Thompson were contracted by maritime related unions to undertake worker interviews of union workers to provide some deeper qualitative insights. All relevant unions were invited to be involved, however some declined. Following feedback from the Leadership Group, Maritime NZ's analytical team designed the questions for Armstrong Thompson to ask. Thirty-nine interviews were carried out, transcripts were anonymised in accordance with the Privacy Act to protect individuals. The findings were amalgamated and analysed to identify consistent themes.

The worker workshop was largely focussed on stevedoring activity and associated roles. While there were national insights brought from some union attendees, it was largely made up of workers working in the Port of Tauranga and may not be truly reflective of all ports.

The Ask Your Team "Worker Voice" survey was co-designed with input from industry, unions, and Maritime NZ. The survey resulted in 1,590 responses, of which the amalgamated national level picture is used. This survey, the Armstrong Thompson interviews, and workshops with port workers and management were used to provide opportunities to dig deeper into perceptions and to gain additional qualitative detail to lend context to statistical analysis results. Many of the findings across these three data sources are consistent with each other and the other data sources.

DOT Loves Data's (DOT) work is based on port, stevedoring and one marshalling companies' data. There is significant variation in recording practices across industry which has meant that while findings and insights have been obtained, they have been more limited than if there were common practices for defining and recording data. This data was used to develop a national picture and baseline, built on industry's own records and understanding of the critical risk areas where harm is happening.

Maritime NZ's work around notifiable and fatal injuries is based on 10 years of data and uses the Health and Safety at Work Act (HSWA) 2015 definition of "serious" and actual notifications. DOT's work is based on three years of data and uses a wider definition of "serious" or "high severity harms". This means that while there are commonalties between the two sources, there are also some differences in the findings between the two papers because of the different definitions of "serious".

The Maritime NZ and WorkSafe New Zealand port assessments were undertaken at a point in time and within a short timeframe. Findings were based on observations, interviews and some documents. For some assessments some of the critical risks could not be assessed. For this reason, they were not an in-depth audit, or an approval of practices, and a longer time period would have given time for deeper analysis and observation of management of the critical risks on all ports. They did, however, provide some useful areas for individual persons conducting a business or undertaking (PCBUs) and ports to work on, and there were some key themes and insights drawn across New Zealand.

The DOT work and the 10-year data provide quantitative data on critical risk areas. However, they provide little information on the qualitative and underlying contributors to harm, which is why the qualitative interviews, workshop and survey data were commissioned. The port assessments also provide additional qualitative data. As stated above, while each data insight or source has some benefits and limitations, the power is in looking across all of the sources.

1.2 Background to the Sector

Port business models

New Zealand port companies vary slightly in the business models they have adopted. There are three basic business models for ports:

- **Landlord ports** – the port company owns the core port infrastructure of land and wharves, while equipment (cranes, forklifts and reefer connections), marine services (pilotage, towage and mooring) and cargo handling services are provided by private independent operators
- **Mixed ports** – the port company provides the infrastructure and operational port services in competition with private service providers
- **Full-service ports** – the port company owns and exclusively operates the full spectrum of port activities, including the provision of port infrastructure, equipment and operational services, and directly hires all labour to perform the port activities.

Most New Zealand commercial ports sit somewhere between mixed and full-service ports; most own and operate the assets and provide:

- Cargo services (receiving and delivery, marshalling, general and container stevedoring)
- Infrastructure (channels, breakwaters, navigation aids, berths, terminals, storage sheds, office space and equipment)
- Marine services (pilotage, towage and mooring)
- Other services (ship rubbish and waste removal, container cleaning, ship water).

Other operators compete with port companies in some aspects of the business. Competing providers are more common for general stevedoring of ships other than container ships, but pilotage and marshalling are other areas where there is some competition in some ports.

Physical and geographical issues

There are several differences between ports which affect operations, including:

- Geography and physical layout (for example, natural features that can at times cause constrictions/choke points)
- Physical size and scale
- Type of port (natural or man-made)
- Inhibiting factors (such as swell height, wind or tides)
- Number of vessel movements and commodities moved
- Type and quality of arriving vessels
- Commercial considerations, such as leasing land and buildings versus charging rent for storage
- Split of port activities between the port company and PCBUs
- Type and quality of port infrastructure and assets
- Number of marshalling and stevedoring operators, ranging from one to many
- Types of heavy equipment used in wharf operations
- How daily operations are undertaken
- Differing standard operating procedures (SOPs) for the same roles/tasks
- Differing workforce issues and requirements.

Daily operations

The large ports, with multiple daily vessel arrivals, are large operators with multiple moving parts. This is very prevalent for container movements (Figure 1). Mechanisation and the removal of people from harm's way have been signalled as key to meeting commercial requirements while minimising the potential for harm to workers.

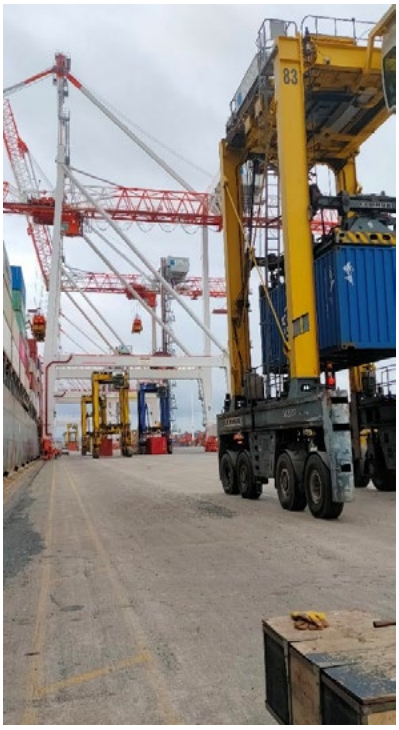


Figure 1: Straddle carriers in operation

Logs, bulk, and break-bulk loads often require greater human presence in risky situations, therefore potentially increasing the risk of harm. Each PCBU manages risks differently, for example, PCBUs can use their own crane or use a ship's crane; use a log grapple or grab to lift the load, or use 'slingers' to secure the load and hook them onto the crane hook. It was mentioned that some ports are now receiving bulk vessels that have been repurposed for logs. Each method in use has different safety requirements for marshallers, slingers, and tally clerks.

Marshalling is undertaken to consolidate loads, usually logs or containers, ready for loading onto vessels or vehicles. This activity requires multiple heavy vehicle movements (trains, trucks and heavy machinery) and requires careful traffic management through traffic management plans (TMP). Ports can have multiple marshalling operators with differing business arrangements. This places health and safety, and traffic management responsibility onto different, and sometimes multiple, parties.

Traffic management at the highest level is managed by the port company with a TMP. However, leased land can have its own TMP, and two stevedoring companies working a vessel simultaneously can have separate TMPs in operation simultaneously. In some situations all of the PCBUs operating on a port work together to develop single-site multi-PCBU TMPs and risk management plans, but this is not consistent across all ports or all PCBUs.

SOPs are reportedly not shared across companies. This includes situations when different companies are working alongside another gang or in labour sharing situations and their SOPs can be inconsistent. For example, some stevedores will back a forklift with a full pallet on the forks to ensure better vision, while others will drive the same load forwards, despite the reduced visibility. While there may be good reasons for differences in SOPs, in some cases there is not. In addition, sharing of SOPs can help manage occasions when inter-face issues may occur (see below).

There is reportedly limited de-confliction between stevedoring gangs even when working the same vessel. Each stevedore gang will have a separate toolbox session, and communication between gangs can be as limited to a conversation just between 'foremen'. There can also be limited or non-existent radio communications for stevedores from the same gang working vessels (although radio communications might not be necessary in all cases). While watching a bulk vessel unload it was voiced that there is a reliance on the truck driver knowing what they are doing. This is because they are not present at the toolbox session, or trained by the stevedoring company, and they are unlikely to be conversant with the stevedore's SOPs. However, these same truck drivers will have completed port training to be eligible to drive on the port and be aware of the TMPs.

1.3 Critical risks and activities linked to harm

Critical risks areas are defined as the category of port and ship-based work where the most serious harm and fatalities are occurring. Previously the Leadership Group identified the following three critical risks as causing the most harm:

- Person vs machine
- Working at height
- Suspended loads.

The study of 10 years of notifiable and fatal injuries at ports found that these are highly likely to be the critical risks in terms of risks leading to notifiable harms. The key findings from this work are:

- The volume of cargo moved through New Zealand ports has increased over the last ten years
- The number of fatalities has remained consistent over the last 10 years at 1.8 deaths on average per annum. Notifiable injuries at ports have been trending downwards over the last 10 years. There was some increase in notifiable injuries in 2021, but the trend for 2022 is too early to tell. Alongside the increase in volume of cargo moved, this means the rate of notifiable injuries is also trending downwards (Figure 2)

- There have been 18 deaths and 397 reported notifiable injuries over the last 10 years
- The most common causes of fatalities amongst port workers are falls from height, including falls from vessels, and being crushed by or between vehicles or other machinery, or cargo (Figure 3)
- The most common causes of notifiable injuries are similar; slips, trips, and falls, and being struck by or caught between things – including vehicles, cargo, and walls or sides of vessels (Figure 4)
- Forklifts (which go on both wharf and on ships) and trucks are linked to the greatest number of notifiable injuries.

Figure 2: Rates of notifiable and fatal injuries vs tons of cargo moved

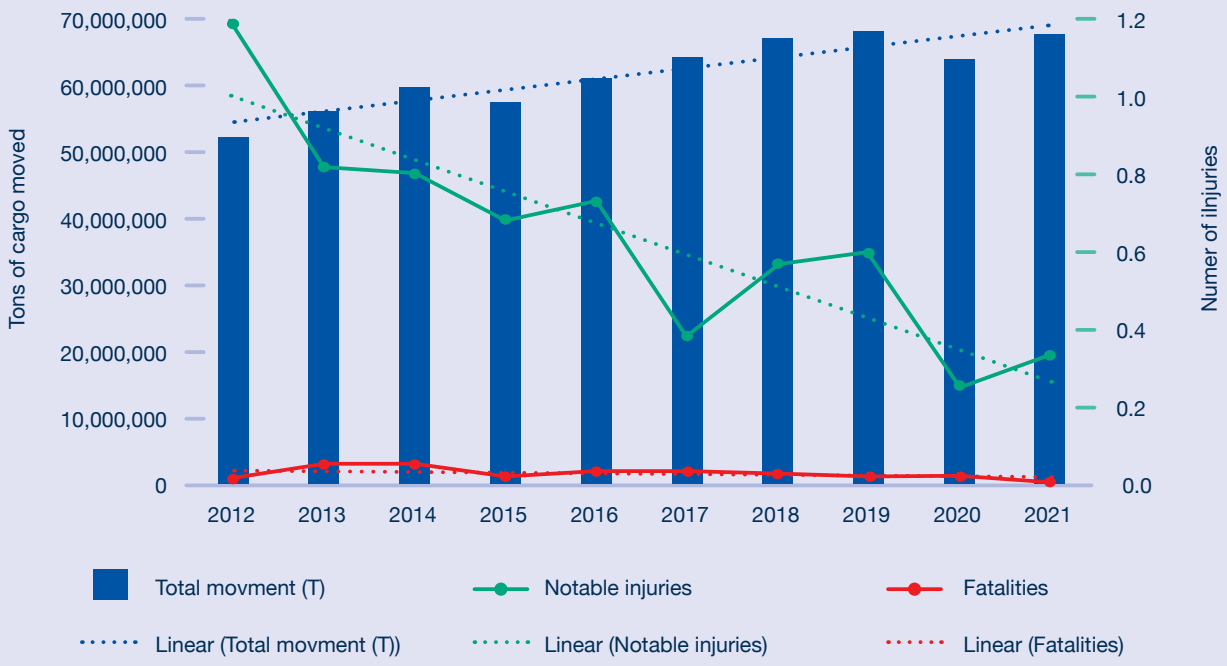


Figure 3: Causes of fatal injuries at New Zealand ports 2012-2022

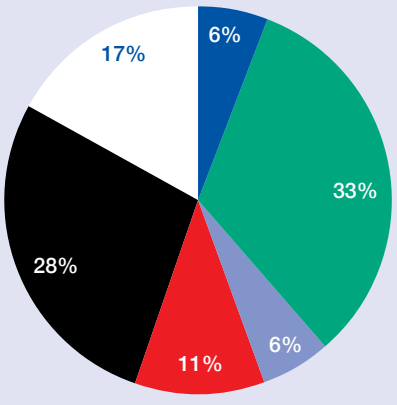
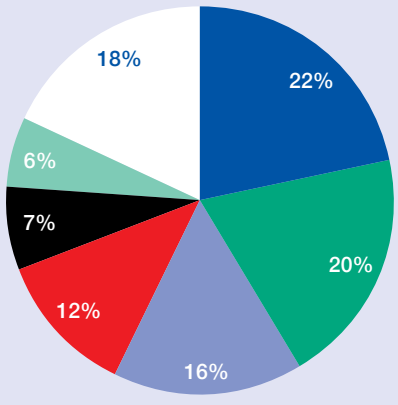


Figure 4: Causes of notifiable injuries at New Zealand ports 2012-2022



International Comparison

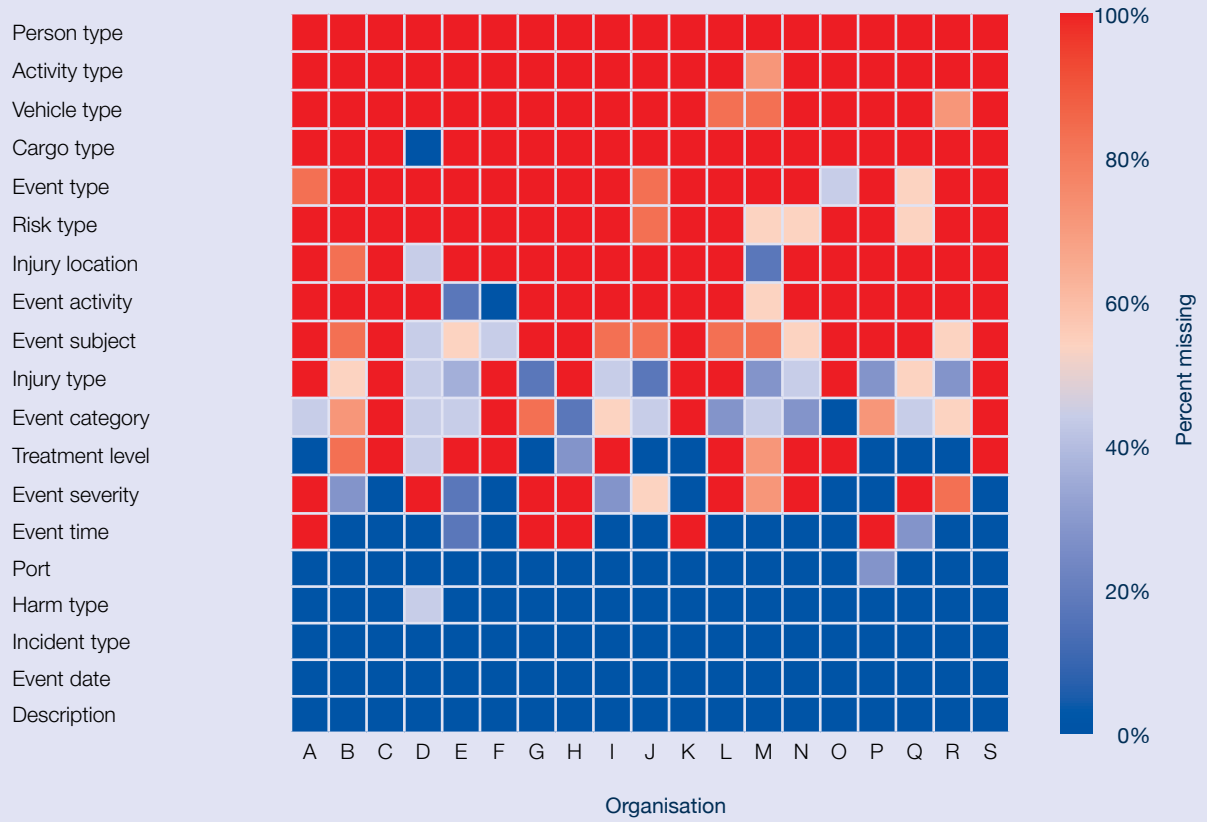
Differing levels of automation and mechanisation, along with differences in type of cargo moved creates significant challenges in establishing an accurate like for like comparison. Based on readily available data, the following high level comparisons can be made.

By quantity of product moved, there is less than one fatality per 20 million tons of cargo moved through New Zealand ports per year. By comparison to the United Kingdom and Hong Kong, both island nations that handle similar types of cargo in terms of containers and bulk cargo, ports deaths in New Zealand are regularly twice or three times as common. There are on average slightly under two fatalities a year on Australian Ports which is similar to New Zealand statistics, however, Australia moves significantly more cargo. International comparisons can be difficult given differences in cargo and mechanisation. Australia has the most in common with New Zealand but has more automation.

In the United States ports workforce, where logs are handled, ports workers deaths are reported to occur at up to 15.9 deaths per 100,000 workers, up to five times the rate of the country's total workforce overall. Injury rates for US ports workers are almost double those for the country's total workforce. For New Zealand, stevedore fatalities occur at a rate of approximately 20.2 per 100,000 port workers, and a rate of 13.3 per 100,000 personnel in port and water transport terminal operations. Fatalities for these two groups occur at the second and third highest rates of any sector in New Zealand.

Sector data findings

Figure 5: Variations in data recording across organisations



Working with the sector's own data, DOT found the critical risks identified jointly by industry and the regulator appear to correlate with both high severity harms and high-volume harms.

However, the variability of reporting (Figure 5) across the 19 contributing companies resulted in an inability to definitively identify and validate the most critical risk.

While variations in company recording practices has created challenges in attributing harms specifically to the nominated critical risks, the suggested correlations indicate both management and worker perspectives have high validity.

It suggests management perceive the rarer but more serious incidents to be of greatest concern, whereas port workers are more concerned with the less severe but more prolific harms.

Despite the restrictions on conducting detailed analysis or identifying underlying causality or drivers of incidents, DOT found:

- There appears to be a correlation between cargo volume and harm, and the rate of harm incidents is increasing
- Bulk cargo appears to be less risky (on a national basis). This is consistent with findings from the study of 10 years of serious and fatal injuries. It may also reflect increased mechanisation of log cargo loading
- Weather conditions could have a negative impact on injury rates, particularly for lashing, straddle driving and forklift operating
- Straddle, forklift and lashing incidents had a sharp increase (both low and high severity incidents) in 2021
- Vehicle incidents on the wharf are much higher than expected and 25% involve another vehicle
- Trucks were identified as the largest contributor to harm at all levels, followed by cranes, straddles, and forklifts
- Back, neck and head injuries feature prominently in vehicle related harm
- There may be a correlation between the rise in straddle incidents and the increase in back injuries, and the rise in lashing incidents and neck and shoulder injuries.

The complexity of the port environment and the variations between recording practices has created challenges in attributing harms specifically to one, or in some cases any, of the identified critical risks. With some adjustments to recording practices of incident and near miss data, it could be possible in future to extract more detailed insights and create deeper understanding of the causes of harm.

To attempt to gain additional understanding ACC data was revisited and specified to the 19 companies who contributed data to DOT to minimise contamination by inclusion of data from inapplicable sectors. From ACC data taken from WorkSafe New Zealand's SWIFT system, there is also some alignment with the industry and regulator identified critical risks in lower severity injuries.

Figure 6 indicates that body stressing (hereafter called musculoskeletal disorder) is the highest generalised category of cause of injury over the three years January 2019 to December 2020, and in that time showed an upwards trend consistent with industry data. Figure 7 shows this breaks down into muscular stress caused both by carrying and lifting, and from other causes.

This is consistent with reporting from port workers of extended time in awkward positions driving machinery such as straddle carriers, repetitive heavy lifting, for example, lashing bars, fatigue due to shift patterns, and understaffing. This supports indications from industry data that all industry and regulator identified critical risks, as well as concerns of ports workers, apply to lower severity injuries as well as to more serious harms.

Figure 6: Generalised causes of harms to ports workers

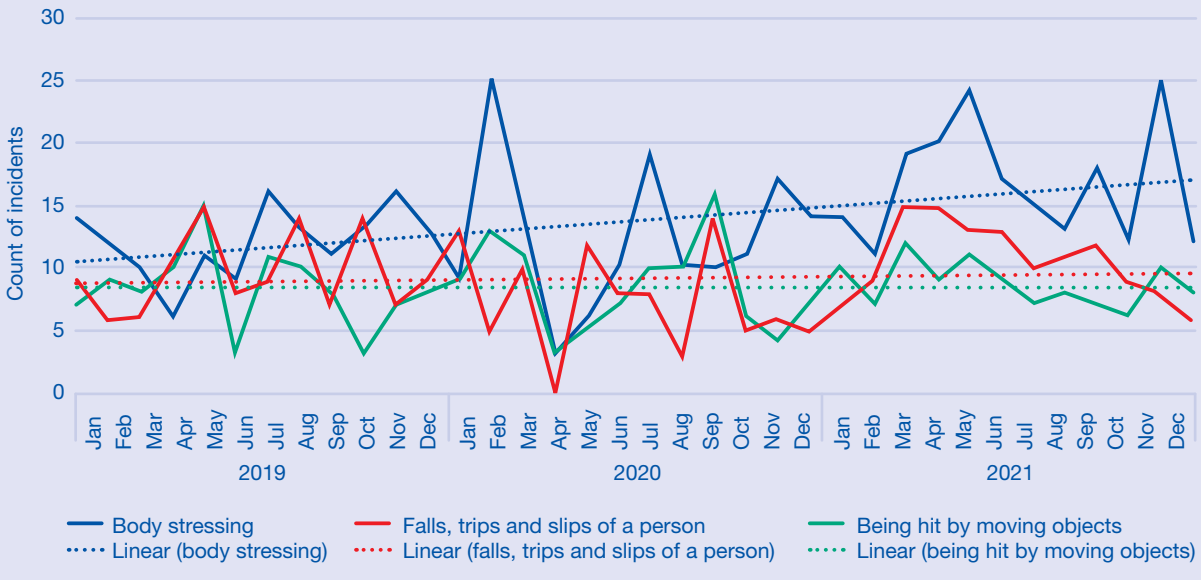
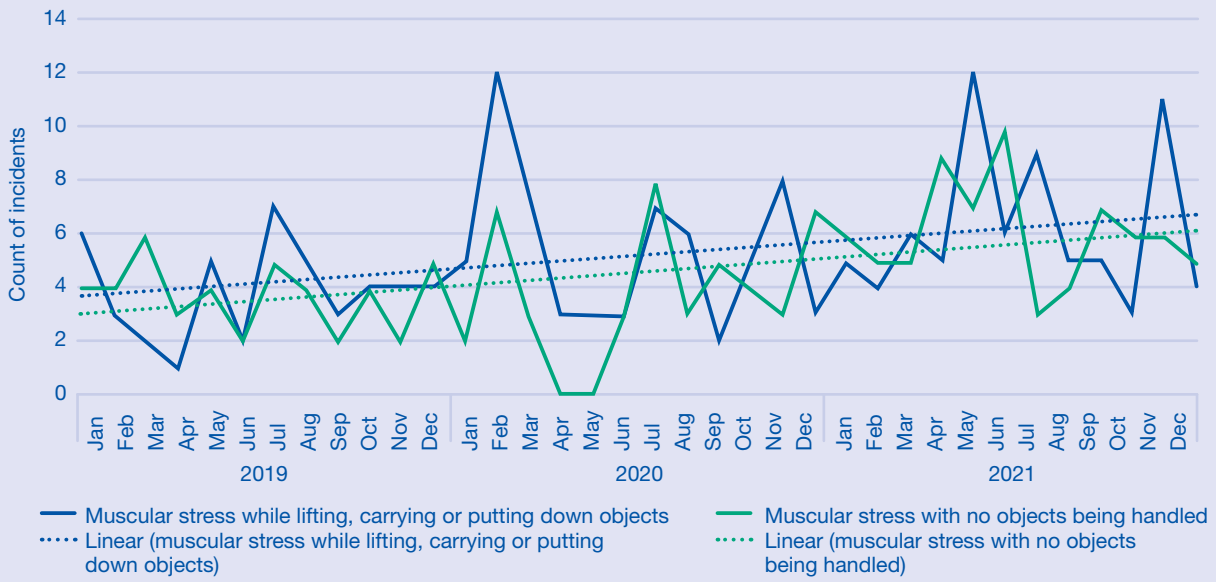


Figure 7: Musculoskeletal disorder injury in detail



Maritime NZ and WorkSafe New Zealand port assessments

Maritime NZ and WorkSafe New Zealand carried out joint safety assessments of ports in early 2022. These assessments were a snapshot in time and management approaches to key risks were unable to be observed at all ports.

Good practice and areas for concern were identified in relation to falling from heights. In relation to suspended loads, while work observed was compliant, both PCBUs and workers identified that communication, training and fatigue were all issues. Other risks identified were falling twist locks, variability of worker engagement, lack of and inconsistent exclusion zones, and out of date, or lack of adherence to, traffic management plans. Again, good practice was also found in relation to many of these risks.

1.4 Overarching themes

Inconsistency

Inconsistency is the common thread running nationally across many facets of port operations and practices, both good and bad practice. This includes inconsistency across:

- Training approaches and standards
- Communication and information sharing practice
- Traffic management plans
- Shift patterns, rostering, and related fatigue management plans
- Use and application of the hierarchy of controls
- Type, age, and maintenance practices for plant, equipment and personal protective equipment (PPE)
- Reporting and recording practices for safety incidents.

It is recognised that each port has its own unique features that need to be taken into consideration when designing operational practices and procedures. However, in some cases there is no clear rationale for differences in risk mitigation controls, including an apparent lack of consistent and systematic application of the hierarchy of controls to manage risk.

Some of the good practice that has been observed through this work includes:

- Multiple ports and stevedoring companies are implementing some form of mechanised grapple for log moving operations. This removes the need for workers to physically place slings and wires around log loads, which removes multiple safety risks, all of which are issues that have caused serious injury to workers undertaking logging movements at ports. Using mechanised grapples instead will almost certainly have saved workers from fatal and serious injuries and is likely to have contributed to the decrease in injuries in this area over time.
- Workers across all PCBUs at one port are actively encouraged and empowered to report health and safety incidents and concerns. They are provided with a practical means to do so, which can be anonymous if they wish. Issues reported on are then raised and addressed promptly. The management approach to any worker who has been reported is not punitive, rather it is from the angle of support and helping them undertake safer working practices.

Culture and Leadership

Workplace culture

Organisational culture is a significant underlying factor in managing harms and risks. Perceptions of whether safety or profits are seen to be prioritised varies nationally. While employers aim to have a "safety first" approach, and workers in the Worker Voice Survey recognised this, qualitative data is indicating other perceptions and incentives on the ground and through the supply chain are seen as "profit and productivity first" which creates conflicting messages for workers.

Workplace culture also varies widely in terms of:

- The level of engagement with, and empowerment of, port workers
- Responses to workers who raise concerns
- Degree of action taken over concerns raised
- Leadership in terms of understanding how to ensure what is desired at the top around safety is implemented on the ground (work as imagined versus work as it is done)
- Partnering with other PCBUs operating on ports to deliver collective safety outcomes
- Ability to challenge poor practices or stop working if a job is unsafe.

Labour issues

Lack of labour supply was one of the strongest themes highlighted through the insights work. Besides increasing safety risks, this presents a range of issues for the performance and sustainability of the port sector and therefore New Zealand's supply chains. The key safety issues resulting from a lack of available, and suitable, labour include:

- Increased likelihood of strain, fatigue, and/or other injury as there are not enough people to do the work, putting pressure on individual workers to carry out tasks that should be handled by two workers
- Insufficient supervision during tasks, and not enough visibility of everyone during the shift leading to fatigue and possibly compromised rescue procedures
- Increased task loading due to lack of resources
- Equipment issues meaning critical communications of risks and people movements can be missed
- Poor staff retention means high turnover, which leads to a large proportion of new and inexperienced staff, casual labour, or staff from other ports. These workers may inadvertently take or create health and safety risks through lack of experience
- Some workers feeling they need to take short cuts to remain productive
- Workers required to be available for work 24/7 leading to a lack of work life balance and fatigue.

At a system level the issues around workforce pressures are complex and relate to pressures caused by Covid-19, immigration settings, training and apprenticeship, and lack of attractiveness of the sector (this can include pay and conditions, including safety). The port workforce is also aging. As the more experienced staff leave, the pool and quality of knowledge and experience available to new staff decreases. In addition, aging workers are less physically capable of enduring the long hours and a physically demanding job.

1.5 Cross cutting drivers of harm

Underpinning the overarching drivers of harm, cross cutting themes have emerged in the range of data, narratives, and anecdotal reporting as factors causing harm to port workers. These involve the type of activity undertaken, type of vehicle, plant or machinery in use, type of cargo, and people's behaviour.

There are almost always multiple themes and factors apparent within records around a single incident. This indicates causality is complex, rarely down to a single issue, and involves the interplay of various factors that cannot be separated out and allocated levels of influence.

Figure 8: Themes emerging from union worker and stevedoring workshops

Incident reporting and recording culture

A mixed culture appears to exist around incident reporting and how reports are responded to. There are some good examples of PCBUs making it easy and incentivising reporting, along with following up to show action taken in response, and a no blame and learning approach to incidents. However, a range of sources (Ask Your Team, assessments, DOT, worker interviews) raised some concerns about reporting of incidents within PCBUs and notifications to the regulator. Some of the reasons given for a lack of reliable and robust incident reporting include:

- Some workers report feeling disincentivised from reporting due to concerns of a "bad reaction" such as people or gangs stood down, or nothing happens if an incident is reported
- Worker incident reporting is not standardised and therefore a collective view of incident and near miss incidents is difficult to form
- There may be a conscious or un-conscious risk taking culture. Workers may not be seeing the need to report near miss and other low level incidents
- Reporting is not made sufficiently easy. Often workers find it hard to stop and report if busy undertaking work, then want to get home at the end of the shift and forget to report. One port has addressed this by providing a radio channel for people to report incidents in real time, and the success of this is seen in much higher levels of reporting and a better understanding of issues that are happening
- People don't understand their legal notification requirements, are concerned if they report productivity will be slowed, or notification processes are not easy and accessible enough, or not always responded to.

Training

Ask Your Team surveys found that while there is variation nationally, overall training scored positively. On average, respondents reported feeling they had enough training of the right sort to be able to do their jobs safely. While it was acknowledged there were inconsistencies and some gaps in training, it was also noted that the efforts made by management did mean training is improving.

However, while training is improving some concerns were raised around the inconsistency of training across the sector; mixed training standards, availability, and on-going support and advice on the job. Refresher training was also raised as not being fit for purpose or tick box. For example, at one port it was reported that refresher training was a paper-based checklist where the answers were left close by on purpose for the workers to see.

Armstrong Thompson interviews of 39 workers, worker workshops, and Maritime NZ and WorkSafe New Zealand assessments reported instances where training is insufficient, not tailored for the sector, is not always delivered by skilled trainers, is inconsistently developed and delivered between stevedoring companies and ports. Within this work trainers also report feeling under pressure to sign staff off as competent before they are ready, this is attributed to staffing shortages and the need to get new staff working as soon as possible.

NZQA qualifications in port operations and cranes do exist and there is a forward programme of continuous improvement and development as part of the Port Industry Association (PIA), but there is variable uptake. This can lead to PCBUs working in shared areas with differing standards of training. Differences in training also make it hard to progress and have career pathways for workers. In addition, the mobile nature of stevedoring can mean port workers who travel between ports are not always trained in the different plant, machinery, equipment, and SOPs different ports use.

Fatigue Management

A range of sources (Ask Your Team, port assessments, worker interviews and workshops) raised fatigue as an issue. Unpredictable work allocation or working patterns required to meet variable shipping schedules, casual workers who may have other jobs, broken shifts, long hours per shift, and workforce shortage issues all appear to contribute to the risk of port workers being fatigued while at work. Fatigued workers can struggle to make good decisions, particularly when in a dynamic environment, which can then lead to incidents and harms occurring across a range of activities at ports. Workers have reported on poor shift management providing limited certainty, minimising their ability to manage their sleep patterns and resulting in limited quality of life as they cannot plan. Some workers reportedly feel pressured to come back to work early or do extra shifts because of skills shortages and don't want to let colleagues down. Many identified this as contributing to a lack of attractiveness of the sector as a career option. Some shifts also do not always factor in travel time when calculating down time between shifts.

Despite the ongoing work, existing fatigue management plans, and the use of software in some ports, management of the issue is not undertaken consistently across the country. Some PCBUs do not have fatigue management plans in place, and where there are fatigue management plans in place, workers might not know they exist or how to use them.

Regulator Arrangements

Workers and PCBUs have expressed a desire for Maritime NZ being more proactive and visible on ports and that more Port State Control Inspections are needed given the safety standards of arriving vessels.

In addition, having two safety regulators operating on a port can be confusing, particularly when incidents occur that are neither clearly on water or on land such as when loading and unloading cargo. Being unsure who to report to can lead to duplication in effort to report to both. It also confuses accountability and is inefficient to have both regulators on a port, especially when WorkSafe New Zealand has a broader remit across a range of industries.

Standard Operating Procedures

PCBUs have some good practice operational procedures in place, including where there are operating procedures and committees that manage the interface of PCBUs working on ports. However, SOPs are often inconsistent between PCBUs sharing workspaces. While there will be good, and appropriate, reasons at times for differences in SOPs, at other times there are not and in this makes it more difficult to address safety in areas of overlap of activity. PCBUs working side by side often also do not share SOPs.

Through the port assessments and worker voice interviews, situations were raised when the hierarchy of controls were not being applied and administrative controls and workers were relied on to manage risk when other controls were available and would be more effective.

There are also instances of SOPs not always being followed, for a range of reasons including:

- Some port workers have said that they do not know how to easily access SOPs to check them for reference, and often toolbox talks and health and safety meetings are limited (this is even more difficult for port workers who move between ports and have not been trained on the new procedures)
- Some port workers admit to not always following SOPs if they are perceived to be impractical, and many state that one of the key reasons they are impractical or not followed is that workers are not engaged in formulating the SOPs that affect their work (which is a requirement under HSWA).

At times port workers also acknowledge their own desire to get work done can lead to high risk tolerance and short-cuts. Reporting indicates acknowledgement from port workers that they do need to recognise the personal responsibility for themselves and their colleagues under HSWA s45, and not just rely on their employer and the port for their safety. Workers have also voiced desire to be more involved in creating SOPs and influencing change, indicating higher involvement would lead to more practical SOPs and higher buy-in from workers to reduce their own risk tolerance and short-cuts.

Sharing of information and practice

Sharing of important safety information

There is a lack of timely sharing of information across the whole port sector around the quality of ships, which is increasingly an area of concern (see following section for detail). A number of parties hold information about the quality of ships. There is the ISO delivered database, pilot's information, stevedoring companies and port information gained from pre-inspection checks, and Maritime NZ data as part of port state and flag state control work and through our engagement with the Tokyo MOU.

Workers and PCBUs raised that a lack of sharing of data can lead to ships sailing to the next port and creating health and safety risks for those PCBUs and workers operating at that port.

Lack of consistency in reporting impedes sector insights

As incident reporting and naming conventions are not standardised a collective view of incident and near miss incidents is difficult to form and makes developing a sector insights picture on what causes harm, to whom, and why difficult. This hinders the ability to gain insights into sector wide patterns and pictures, and limits both the ports and the regulators ability to understand harm causalities and prioritise and target harm prevention appropriately.

Sharing of information and learnings between PCBUs that share port space and even between regional branches of PCBUs is inconsistent at best, and in some cases, appears to not happen. Experience from the FishSafe and MarineSafe programmes suggests wider sharing of information and learnings is highly likely to make a positive impact on safety in the ports industry.

Quality of infrastructure, equipment and ships

Reporting indicates that quality, maintenance standards, and availability of personal protective equipment (PPE), communications equipment, plant and machinery, wharf facilities, and quality of wharf infrastructure vary significantly across the ports. Ports built on reclaimed land, have increased vulnerability to pot-holing and other damage from intensive heavy plant use. Some wharves and yards are undergoing significant renewal, development and investment or are very well maintained. Multiple handling of cargo due to congestion issues, combined with wetter conditions over the last couple of years, has also been a contributor to the quality of wharfs.

Ask Your Team, worker interviews and workshops, identify quality of equipment and wharf conditions as leading to musculoskeletal disorders. DOT and ACC data also show musculoskeletal disorder injuries are on the increase (which can be related to quality of wharf, equipment and fatigue). Workers are also concerned that as potholes are hard to see in dim light or weather, there is a high risk of them being driven into by straddle operators, contributing to harm.

Other port and stevedoring plant and machinery is aging. While some is replaced and updated, or well-maintained above minimum standards, for a range of reasons other infrastructure and plant has not always had sufficient investment over the years to maintain it to a high standard or upgrade to more modern options. For example, some port offices are based in temporary buildings, some wharves do not have adequate spaces for rest breaks or facilities for female staff. Reporting suggests some plant and machinery has served significantly in excess of recommended working hours without full services or maintenance.

Communication equipment was specifically raised as a key issue. Problems included radios not fit for purpose due to being heavily impacted by outdoor working conditions such as wind and rain, insufficient radios, varying quality and condition. These issues can impact heavily on workers ability to communicate position, movements, and to alert others to safety risks.

Nationally there are concerns around the quality and safety of visiting vessels. Shipboard gear ports workers have to use is reportedly in increasingly poor condition, and of particular concern are ship lifting appliances. In New Zealand ship lifting appliances are inspected by third parties. Stevedoring companies help to mitigate the risk by contracting these third parties to inspect the areas of the vessel, and the lifting equipment, to be used by the stevedores. Some stevedoring companies will undertake inspections at each port of call, while others will rely on inspections conducted for their company in other ports (on the same voyage). This is despite some inspections being undertaken at night (when defects can be missed due to poor lighting) and further wear and tear on lifting equipment used at the last port.

The lack of information sharing noted previously means unsafe shipboard equipment may be getting overlooked, or not reported to other ports. The ISO database holds information around ship quality, pilots hold information, as does Maritime NZ, but it is not shared and used as well as it could be. Of note, Lloyds data indicates the average age of vessels arriving in New Zealand has been decreasing.

Analysis of anecdotal reporting suggests the physical environment is the area where the greatest opportunities exist to improve safety. Some of these improvements would not need significant resourcing. Notable improvements could be achieved with consistent national application and/or minor adaptions to existing rules such as consistent speed limits applied to plant and machinery, physical barriers and exclusion zones, and clearer display of radio channels in use in specific areas. These can all impact significantly on the risk of harm to ports workers and is an area where there can be reliance on administrative controls rather than use of engineering controls to protect workers.

Communication and Coordination between PCBUs

Communication and coordination between PCBUs operating in the port environment is inconsistent. As with other themes found in this report, this was noted as an issue in Maritime NZ's Stevedores Inspection HSWA Campaign in 2018. There are some good examples of deconfliction and shared SOPs for shared areas, such as joint TMPs and shared radio channels. However, this is not happening consistently at a national level and PCBUs often have differing SOPs around matters such as exclusion zones, TMPs, communication and radio protocols and container stacking heights.

It is likely safety gains could be made by greater consistency between policies and procedures. This includes enforcing existing procedures and building changes of mindset and culture. For example:

- Creating and maintaining a positive culture around raising and sharing safety concerns
- De-conflicting and standardising practices across working in shared spaces
- Having good systems and practices for communication between PCBUs at all levels
- Shared SOPs, including for emergency responses, which are regularly reviewed with worker input to ensure they are fit for purpose.

2 Action Plan for Reducing Harm

The following Action Plan includes a proposed suite of priority actions to reduce harm in the port sector in the short to medium term. A long term, multi-year, harm prevention programme for ports and harbours is included as one of these actions and is discussed in section three.

For each area we propose a priority action to be undertaken over the next six to eighteen months. Where possible, we propose the steps we will take to implement these actions.

The areas to be undertaken by the Leadership Group have been identified and developed based on:

1. What the key drivers of harm were from the Port Sector Insights Picture
2. Work identifying good practice within New Zealand and overseas
3. What the sector said needed to change through a series of workshops and consultation.

A summary and indicative timeline for the action plan is at the end of this document.

2.1 Standards and Guidance

Lead: Maritime NZ

Why this is a focus area

One theme that came through strongly from all the data and insight sources, is that there is inconsistency of practice across companies within and across the sector, with some very good practice, and some poor. Ask Your Team commented that the divide between lowest and highest scoring companies in some questions of the port Worker Voice survey were among the largest of any sector they have seen. This includes inconsistency across:

- Training approaches and standards
- Communications and information sharing practice
- Worker engagement
- Traffic management plans
- Shift patterns, rostering, and related fatigue management plans
- Use and application of hierarchy of controls
- Type, age, and maintenance practices for plant, equipment and PPE
- Reporting and recording practices for safety incidents.

It is recognised that each port has its own unique features that need to be taken into consideration when designing operational practices and procedures. It is also recognised that differences in practice can be a good thing and that it encourages innovation and continuous improvement. However, in some cases there is no clear rationale for the large differences in risk mitigation controls, and the differences can lead to poor safety outcomes.

Good practice related to standards and guidance

Compared to other high-risk, primary industries in New Zealand such as forestry and construction, the port sector has relatively few minimum health and safety standards. That is, there is currently no minimum accepted/understood baseline for many of the critical risk activities that occur.

There has been marked success in other sectors in New Zealand such as forestry, construction and agriculture, and in ports overseas, in achieving positive health and safety outcomes through the introduction of standards to create a baseline which industry can work off. Many international maritime regulators have some form of code of practice that covers what is deemed across a range of risk areas associated with ports.

There were several areas that have been identified through the work as being areas which might benefit from some consistent standards and good practice. In one of these areas, fatigue management, significant traction has already been made through the development of a comprehensive best practice guidance document (see 2.2 below). Other areas include container stacking, data and reporting, and training.

However, the key area identified as needing more consistent baseline standards has been stevedoring. The Port Sector Insights Picture shows that many of the injuries and fatalities occur in the process of loading and unloading of cargo (for example, falls from heights, suspended loads, being crushed between ship to wharf, and some person versus machine loading activity). This is unsurprising given it is recognised as one of the most dangerous activities on a port.

In Australia, the **SafeWork Australia Model Code of Practice for Stevedoring** (MCOP) was developed following concerns about the number of fatalities and serious injuries occurring in the sector. Anecdotal evidence suggests it has been very successful in contributing to the reduction of harms and fatalities, with the Maritime Union of Australia (MUA) stating there have been zero fatalities in MUA-organised stevedoring activities, and the widespread adoption of the MCOP across Australian stevedoring workplaces.

The development of a specific Approved Code of Practice (ACOP) for stevedoring in New Zealand would ensure that there were minimum standards covering many of the critical risk areas on ports. It would also provide PCBUs with confidence that if they comply with the practice contained in it, that they are meeting the test of what is reasonably practicable under HSWA in a given situation. It would not impose new requirements but rather clarify, for all parties, including operators, workers and others, what is reasonably practicable and expected.

The Leadership Group agrees the Australian model is a good base to start from, although we will need to amend it to reflect New Zealand's operating environment and developments in the sector since 2016, as well as consider what the Port Sector Insights Picture and other good practice information is telling us.

Proposed priority action

We are therefore proposing a priority action under this area is to develop an ACOP for stevedoring. The ACOP would cover a number of critical risks and cross-cutting drivers of harm identified in the Port Sector Insights Picture.

This ACOP is the immediate priority and we would look at other opportunities for guidance or practice as part of the multi-year programme (see part 3 of this document).

Timeframe

This is to be progressed as a matter of priority, with an intention to get the ACOP to the Ministers for approval in early September 2023.

A review will occur in April 2023 to ascertain if progress is on track to meet this deadline.

This timeline aims to achieve a balance of ensuring good progress is made while enabling a good engagement approach with the sector which will be important to get buy-in and make the most of sector expertise. It recognises we are not starting from scratch and that we can use approved codes of practice, like the Australian one, as a base.

Development and implementation

4. Development will include:
    e. Five full day workshops with sector participants (regulators, unions/workers, and port and stevedoring PCBUs) with relevant subject matter expertise, which will be held in Wellington to discuss chapter content
    f. Prior to each workshop, participants will be sent a pack containing relevant information relating to the Port Sector Insights Picture and good practice from across New Zealand and overseas, and some questions to consider prior to the meeting
    g. The level of commitment for workshop participants is pre-reading, one full day workshop in Wellington, revision of content from each workshop with two weeks to provide feedback.
2. Timing
    a. We anticipate the ACOP to be completed at the end of June 2023, with consultation opening soon after and remaining open for six weeks. Different parts of the ACOP may be provided earlier for consultation as the workshops progress
    b. The ACOP will be provided to Ministers in early September 2023
    c. There will be a review point on progress in April 2023 to see if things are on track. A high level development schedule can be found overleaf. This is indicative only and may be refined.
3. An implementation plan will be developed to support understanding and compliance with the ACOP. A range of easily accessible education materials will be developed and training in relation to it considered as part of any training focus area under the multi-year action plan.

2.2 Fatigue Management

Lead: **Ports Industry Association**

Why this is a focus area

Fatigue is a physiological state where someone is unable to function at their best. It can result in reduced health and safety at work and poorer health outcomes including mental health. As covered in the Ports Sector Insights Picture, fatigue was a key issue identified amongst workers, and many of the safety management systems observed within the sector are built on the principle of workers not making mistakes. This is increasingly difficult when faced with physical and mental fatigue.

Fatigue in the ports sector is driven by unpredictable work allocation or working patterns required to meet variable shipping schedules, casual workers who may have other jobs, broken shifts, long hours per shift, and workforce shortage issues. Workers who are impacted by fatigue may struggle to make good decisions, particularly when in a dynamic environment, which may lead to incidents and harms occurring across a range of activities.

Despite ongoing work, existing fatigue management plans, and the use of software in some ports, management of the issue is not consistent or appropriate across the country. Some PCBUs do not have fatigue management plans in place, and where there are plans in place, some workers are not involved in the development of them.

Good Practice related to fatigue

In other sectors faced with similar issues, strategies have been developed and implemented to manage fatigue in order to reduce worker error and harm while at work. For example, Fonterra have approximately 1800 tankers on the road during the peak milking season. They treat their tankers as the face of Fonterra to farmers and they represent a critical aspect of their supply chain; transporting milk from farm gate to factory. They recognise the risks posed from operating large vehicles on sometime narrow and windy rural roads in New Zealand are very different from those they manage in their factories. Road design, members of the public and other hazards are all present and continuous for their tanker fleet. Added to the known risks of operating tankers are drivers working shift work which can lead to fatigue. Globally, fatigue is recognised as a major cause of large truck fatalities along with driver distraction.

Fonterra have implemented a fatigue management system built on two key tools that complement their impairment policies:

1. An analytical software tool used to identify fatigue exposure and support the management of hours of work within an organisation's fatigue management plan
2. A real time driver fatigue and distraction solution, including an in-cab sensor that tracks eye closure and head position, a powerful vibration motor, a front facing camera and an on-board computer.

Research from the aviation and maritime sector, along with feedback received from interviews conducted as part of the good practice work, identify that one key successful way to properly manage the risk of fatigue is by having a fatigue risk management system in place.

In late November 2022, the Leadership Group will be proud to release the fatigue risk management system (FRMS) good practice guidelines one of the first of actions of the group developed through the tripartite approach. Massey University's Sleep/Wake Research Centre was involved in their development, by providing expertise drawn from the latest New Zealand and international research on the management of fatigue. The guidelines look at the science behind fatigue, how to recognise the signs of fatigue, the barriers to adequate sleep and are tailored to the challenges faced by PCBUs operating at ports.

Proposed priority action

We are proposing to address the sector wide fatigue related issue by facilitating the uptake of the FRMS guidance. We would like all PCBUs employing workers on ports to be well underway in designing a fatigue risk management system by September 2023.

The Leadership Group will be collectively responsible for supporting the implementation of the FRMS guidance, including upskilling staff and promoting them across the sector. A review of the successful implementation will take place and results provided to the sector and the Leadership Group in approximately a years' time.

Timeframe

This is to be progressed as a matter of priority, with a desire to get a FRMS in every port/PCBU well underway by September 2023.

Implementation

1. Following the publishing of the guidance the Leadership Group will look to support the implementation and increase PCBU uptake by developing education materials and further guidance material aimed at workers. This may include the development of resources in different languages.
2. The PIA plan to hold a series of workshops and training with industry, unions, Maritime NZ staff, and fatigue experts to help support understanding of the guidance and the setting up of a fatigue risk management system and sleep education. The intention is to increase knowledge and capability across the sector with regards to fatigue risk management.
3. The PIA are also looking to share the virtual resources created on their website and make them freely available for a two-year period.

2.3 Regulator Arrangements

Lead: Maritime NZ with support from WorkSafe New Zealand

Why this is a focus area

Maritime NZ is the designated regulator for workplace health and safety for work on board ships and ships as workplaces (which is effectively ships and ship-to-wharf operations). This includes lifting suspended loads from a ship to the wharf and other stevedoring activity as well as safety on ships and harbours. Maritime NZ also performs other regulatory roles on ports. WorkSafe New Zealand is the primary workplace health and safety regulator, and the regulator of health and safety management of land-based activities at ports, although it works closely with Maritime NZ on this. Currently, most of the port sector stakeholders work across two health and safety regulators because they operate on the sea, ship-to-wharf, and land.

Through the Port Sector Insights work, workers and PCBUs have expressed a desire for Maritime NZ in particular to be more proactive and visible on ports and that more Port State Control Inspections are needed given the safety standards of arriving vessels. The latter issue is being addressed by the set-up of a new Maritime Inspections Team in Maritime NZ who will have more capacity to complete Port and Flag State Inspections.

In addition, having two safety regulators operating on a port was raised as being confusing by some parties, particularly when incidents occur that are neither clearly on water or on land such as when loading and unloading cargo. Being unsure who to report to can lead to duplication in effort of reporting to both. It also confuses accountability, and it is inefficient to have both regulators on a port, especially when WorkSafe New Zealand is required to use its resources across a number of high-risk industries. There is also a risk, no matter how aligned the two regulators are, that inconsistent messages are given.

For the regulators, this arrangement also makes it hard to get an end-to-end sense of how ports and port focussed PCBUs are developing systems, performing safety operations, and engaging with workers across the business. There is no system wide and holistic view. Ultimately this is likely to be hampering safety outcomes in what is a very complex operating environment.

There is broad agreement across the sector and from the Ports Sector Insights Picture, that Maritime NZ is well positioned to have its designation extended. From a proximity perspective, Maritime NZ is already on site. From a functions perspective, there is a considerable amount of alignment in what Maritime NZ does now, and what would be required under an extended HSWA designation, although there would be some up-skilling, resourcing and transition needed.

Proposed priority action

It is recommended that Maritime NZ's HSWA designation be extended from work on board ships and ships as workplaces (ships and ship to wharf), to include all of the port environment, this would need to come with resourcing.

The scope of this extended HSWA designation is likely to be focussed on the thirteen trade ports where there is significant commercial activity and health and safety risks – cargo, fishing, and tourism. They have significant activity around the loading and unloading of ships, cater for ships of a particular tonnage and have shore-side infrastructure required for movement of cargo (cranes and wharves), warehouses, and passenger terminals or loading gangways. The scope is still being confirmed but it is likely to be from the security gate to the boundary, but the boundary for the designation for each port will be consulted on by Maritime NZ with each port and WorkSafe New Zealand.

There has been some discussion around whether the designation should be extended to inland ports, as some ports use these to move goods. There are varying meanings of inland port, ranging from a traditional ship-focussed port (but on a river or lake), through to an inland logistics centre with no direct relationship to ships or water. Although there are some inland ports with close alignment to sea ports, with the same owner/operators and similar safety risks, this cannot be assumed. There are a growing number of logistic centre type inland ports which are not necessarily owned or connected to ports, and this number is likely to increase. We believe Maritime NZ needs some time to implement the new designation well before considering an extension to inland ports. We propose that if the designation is extended, once it has been in place for 18 months a review be undertaken to see if there is merit in looking to extend this to some inland ports.

In the interim before a review is undertaken, if Maritime NZ undertakes work on a port, for example, by developing guidance on stacking of containers or traffic management, Maritime NZ should work with WorkSafe New Zealand to implement it at an inland port to maintain consistency.

Timeframe

This should be considered and progressed by Ministers as a matter of priority, with an implementation date that enables a smooth transition and allows for engagement with PCBUs operating on ports.

Implementation

1. There has already been some discussion with people in the sector and between government agencies around the potential extension of the designation
2. If Ministers decide to approve the extension, it is recommended that an Operational Agreement between WorkSafe New Zealand and Maritime NZ accompany the extended designation, which would also contain a transition pathway to ensure effective regulation can continue.

2.4 Workforce Sustainability and Skills

Lead: Maritime NZ and Ports Industry Association

Why this is a focus area

A key theme which came through strongly in the insights work, relates to the ability to obtain sufficient suitably experienced, skilled and qualified people to work on ports. This is significantly impacting on the sector's ability to function optimally and in many cases can cause safety issues. This is driven by the difficulties in recruiting, both domestically and internationally, and is influenced to some extent by consistency and relevance of training and career pathways, hours of work, pay, perceived safety of the sector, an aging workforce, immigration settings, and to some extent, COVID-19 impacts.

The other workforce issue, is training. While in many cases it is considered to be improving, issues have been raised with the variability of the quality of training and sign-off (including refresher training), lack of on-going support and advice on the job, gaps in training (particularly in relation to emergency management), and the fit for purpose nature of some elements of the training. The current differences in training and the fact that it is often not recognised between PCBUs, also make it hard for workers to progress and have career pathways.

All of the above can lead to:

- Inexperienced staff who can take, or create, health and safety risks
- Not enough supervision during a task, and not enough visibility of everyone during the shift leading to potential safety issues; and
- Increased task loading due to lack of resources, or need to work additional shifts, increasing the likelihood workers are exposed to activities that causes strain and fatigue.

Many of these issues do not just relate to port workers, but are also felt in relation to coastal shipping and other domestic maritime operators, and have been raised in relation to the Freight Supply Chain Strategy. Looking at these issues requires more work across the maritime sector, skills bodies, and with the Government in order to address the issues with the workforce over the short and medium term. To date it has been hard to galvanise collective action and resource to address the issues.

Good Practice which may improve workforce sustainability

In relation to port labour supply, the PIA is working hard to lift the attractiveness of the sector by improving their reputation and the wider community perception of the port environment.

Currently the PIA are in the data gathering phase to gain insight into branding and perception issues within (and outside of) the port industry. They will use that information to develop strategies to attract more talent and build diversity within the sector through targeted recruitment campaigns, communications campaigns and joint working group approaches.

To complement the market based information gathering, the PIA is conducting a survey with new starters. The survey asks questions about what attracted the individual to the role, the induction they received, any suggestions for attracting new entrants, and what they enjoy most about their roles and company benefits.

In addition some ports are starting to do a push around diversity and inclusion and changing the historic bias of the sector, particularly when it comes to females in the workforce. Longer term this may be something that is addressed out of their talent attraction work stream.

Regarding addressing the qualification, skill and training gaps in the port sector, the PIA:

- Has developed a NZQA qualification aimed at new workers entering the sector. The qualification is based off three unit standards which are delivered online, and will give new starters, or anyone working with the sector, a basic understanding of the working environment and a qualification that is transferrable across PCBUs
- Is developing a skills matrix which lists all the common roles across the port (i.e. lasher, hatchman) and all the different terms the sector may use to describe these roles, as well as all the common tasks that the roles perform. This is to foster consistency across the ports by creating a common framework for them to work from.

In addition, the RMTU, with funding from Maritime NZ, has developed a comprehensive health and safety course for port workers, called "organising for healthier and safer workplaces in the ports". This programme aims to build the skills, knowledge and understanding of union members in the ports to ensure they can contribute to building good health and safety systems in their workplace.The RMTU developed the course with input from MUNZ and have made it available to members from both unions.

Proposed priority actions

Given the complexity and systemic nature of the workforce issues and what drives them, two immediate actions are proposed:

- Explore ways to support the work of the PIA to develop new, or refine existing courses and unit standards to cover critical roles and activities on ports. This would also help support the implementation of any Approved Code of Practice on Stevedoring. This work has sector buy in and is underway, so with further support, it could be very effective in helping build a sustainable port sector workforce. [PIA led]
- However, new or refined unit standards will not alone deliver consistency or address the wider workforce and skills issues. It is recommended that the Government establish and fund, a cross sector taskforce with a supporting secretariat, to develop a set of short and medium-term workable actions to support a sustainable maritime workforce (i.e. not just ports, but also coastal shipping and other domestic maritime operators). The taskforce should be made up of operators, unions, the skills sector and government. [Maritime NZ led with Te Manatu Waka]

Timeframe

This is dependent on Government response to these recommendations, but given current issues in the sector we would advise this work be undertaken as a priority.

2.5 Incident Notification, Insights and Intelligence

Lead: Sector Working Group, facilitated by Maritime NZ

Why this is a focus area

As outlined in the Port Sector Insights Picture, numerous issues have been raised that impede PCBUs, the sector, and regulator's, ability to obtain data with enough integrity to build an accurate picture of where harm is occurring, and why, and how to respond. These issues can be grouped under three themes:

- Incident reporting and recording culture
- Sharing of important safety information
- Lack of consistency in reporting impeding sector insights.

Good Practice related to incident notification, insights and intelligence

There are already a number of good practice examples relating to incident reporting and notification overseas and in use in some parts of the New Zealand port sector.

One example was introduced by the Australian Maritime Safety Authority (AMSA). AMSA have a strong focus on incident notifications, and they recognise its importance to maritime safety and how it develops a more informed picture of health and safety risks affecting the industry. To make reporting easier, AMSA have set up an anonymous reporting portal through their **website**. In conjunction with this and to improve uptake, they have undertaken a social media campaign about how important notifying an incident is, and that people have a legal obligation to do so. They've also undertaken considerable worker engagement to help them understand the "why" and to encourage reporting behaviour. Greater reporting has allowed AMSA to develop more effective safety strategies and advice for owners, operators, and crew to avoid similar events in the future.

Another regulator, SafeWork New South Wales, have implemented an anonymous reporting app that is free to down load called "**Speak up, Save lives.**" Key features of the app are:

- **Locations can be tagged** – this helps Safework NSW identify the location of the work, and health and safety concern
- **Photos can be attached** – photos help identity any risks and hazards that may have missed as part of the initial report
- **Updates can be provided on the issue** – if individuals provide contact details, SafeWork NSW can contact them with more information or provide advice about their concern.

In New Zealand, Napier Port have introduced a Near Miss and Damages reporting system using radio transmitters (RT). Prior to the system being introduced, reporting was minimal, with only incidents being captured and not near miss events. This lack of reporting was driven by workers feeling like it was an inefficient use of their time, finding the process confusing, or believing that the reporting would go nowhere so it "wasn't worth the paperwork".

Over a period of three years, reporting has increased significantly (over thirty-five times 2014 rates) through the introduction of a system where near misses and incidents are notified using a specific Near Miss RT radio channel. Messages are delivered via email to operations supervisors and management, and for each near miss or incident there is a triage process, where notifications are assessed as "urgent and requiring action" and investigation, or not (however these are still recorded). Every month, copies of all the incidents and findings from reports are shared with workers in their health and safety meetings.

What all these systems have in common is that they:

- Introduce consistency of information and conventions for events (what, when, where, etc.)
- Provide a way to learn from events which were previously not captured
- Encourage a no blame culture by anonymising reports, so they incentivising further reporting
- Change the reporting culture by being more transparent, and "closing the loop" so workers feel encouraged to report more in the future as they now know that they won't be disciplined and the reports go instead to continually improving the health and safety practices.

Proposed priority action

Scope and implement a set of actions to encourage consistent, timely reporting of incidents and notifications; share information around unsafe ships; and develop an on-going insights and intelligence picture on port sector harms. Priority actions under this focus area will be identified with a sector working group in early 2023 and could include:

- Initiatives to encourage incident reporting and health and safety improvement suggestions, follow up, and analysis of incidents, e.g. Case studies and good practice tools around incident reporting and learning from incidents, including initiatives like the "speak up app"
- Methods to pool and share data and information on unsafe ships or other sector insights between Maritime NZ, PCBUs and harbourmasters
- Maritime NZ is currently developing a data lake or central data repository, in the medium term there could be the opportunity for the port sector to input and store information and intelligence on risks and harms in the lake in an anonymised way that the sector can access in the form of insight
- Improvements to regulator notifications processes and systems. Maritime NZ already has work underway in this area
- Agreeing consistent defined terms and definitions for incident reporting and notifying to enable better quality data sharing, intelligence and insights. This would enable also benchmarking to measure impacts of actions and trends over time
- Consideration of whether to continue with initiatives like the Ask Your Team "Worker Voice" survey.

Timeframe

Given other initiatives, initiation and scoping of this focus area will begin early 2023, with a sector team (including harbourmaster representation). Depending on the scoping of the work, initiatives will roll out over the following 12 to 18 months.

2.6 Good Practice

Lead: Port Industry Association with Maritime NZ support

Why this is a focus area

To support the focus areas for the multi-year harm prevention programme, international and domestic examples of good health and safety practice were investigated using two approaches:

- Examples of good regulatory and non-regulatory practice, published standards and guidance from regulators in the UK, Ireland, Australia, Hong Kong, and from the International Maritime Organisation and the International Labour Organisation were reviewed
- Interviews were conducted with representatives from New Zealand's forestry, dairy, ports and kiwifruit industries and the Maritime Union of NZ; and international regulators from Australia, the UK and the USA.

A key finding through this work is that there are many pockets of good practice across the sector, and in other heavy industry, high risk sectors, or programmes that rely on culture, leadership, and people having a critical thinking mindset. For this reason, it is difficult to explore, and adequately capture and summarise all of the relevant good practice relevant to the sector in one document. Where possible, the good practice observed has been tied into the key focus areas as examples of where the port could learn and draw from to develop other actions going forward, or as examples of where proposed actions have been successful in other areas.

Sharing of good practice (or lack of) was a key finding from the Port Sector Insights Picture, across numerous sources and identified as a contributing factor in many of the themes and cross cutting issues. A critical aspect to building a positive health and safety culture in the port industry is to identify areas of improvement and to ensure that lessons to be learnt are identified and improvements made on a proactive basis.

Good Practice for sharing health and safety success

When used proactively and effectively, information and lessons learnt from incidents contribute to safety objectives by re-using and building on approaches that have worked successfully for other PCBUS, and by avoiding mistakes others may have made. Similarly, positive health and safety culture in the ports can be developed by continuously identifying areas of improvement and ensuring that lessons learnt are identified and improvements made on a proactive basis.

The UK Port Skills and Safety, who recognise the importance of capturing and communicating information and lessons learned, have developed a "Good Practice" platform on their **website** where safety alerts and good practice can be shared and communicated, and enquiries and responses can be posted so everyone can see the response.

Similarly, the PIA, with Callaghan Innovation, have developed a tool called "**Tech Select**," a resource for ports to learn about technologies being used locally and internationally to address major health and safety risks. It features technology applied in ports and other industries with similar dynamic risk environments. These include aviation, construction, energy, forestry, industrial, logistics, manufacturing, military, mining, oil and gas, and waste. A key feature of the resource is its focus on a range of technologies already proven to mitigate and eliminate health and safety risk associated with people and machinery operations in a port environment.

Proposed priority action

Going forward, we propose that a "depository" of good practice is collected and built on as a living resource and housed on a platform for the industry to access. This could also be a platform for the sector to share their findings and success stories and could be done in a similar manner to the UK Port Skills and Safety. Whether this sits best on the PIA website will be explored.

Timeframe

Initiation and scoping of this focus area will begin mid-2023.

3 Multi-Year Harm Prevention Programme

The Port Sector Insights Picture identified several areas where potential work could be undertaken by the sector. This action plan provides six initial actions to get progress underway. We believe it is important to complete and implement these actions well, so that we can get real impact, before adding others given the size of the work involved and a need to not overwhelm the sector.

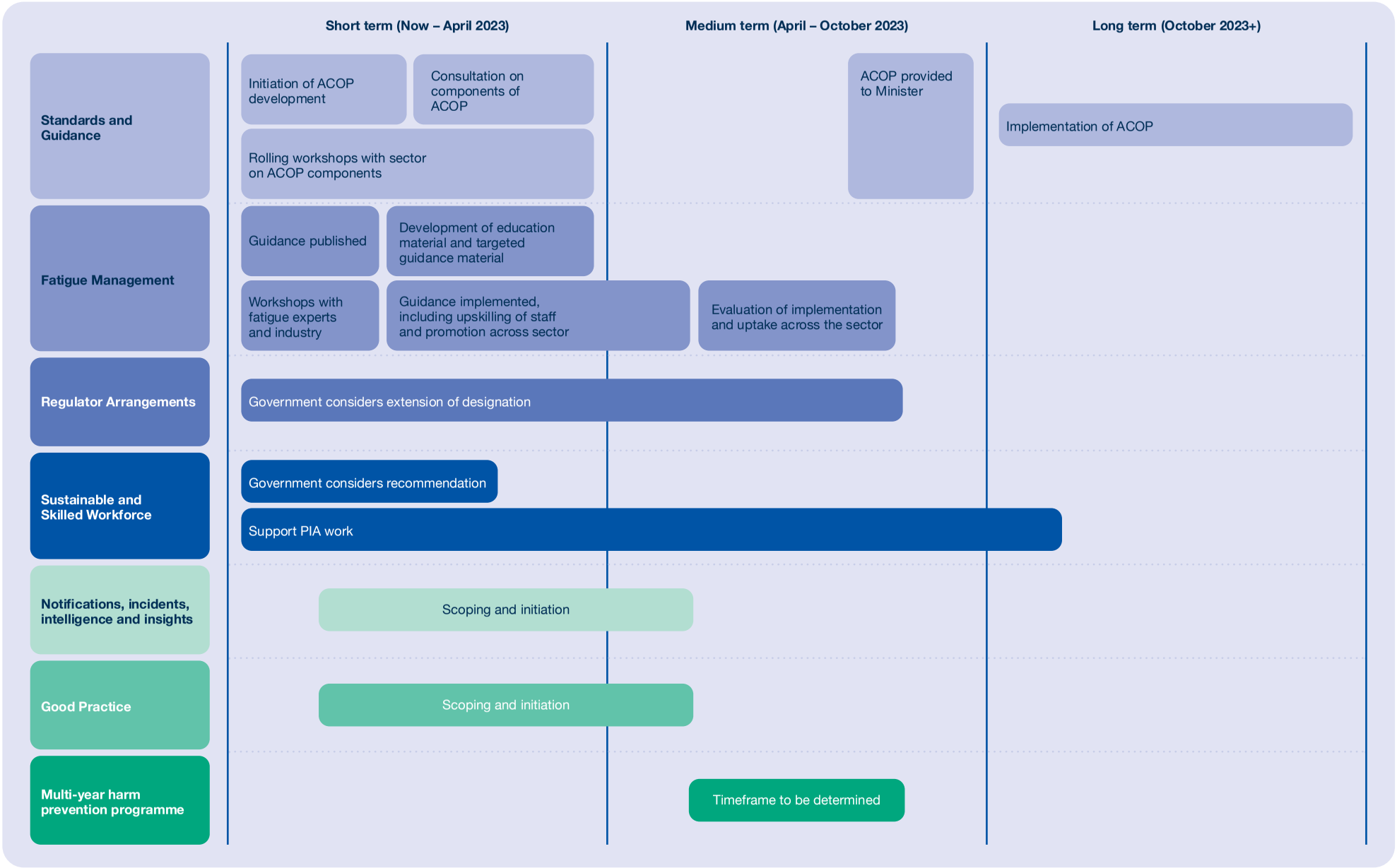
The Leadership Group will over the next year, consider the Port Sector Insights Picture and good practice work and design, in partnership with the sector, a multi-year programme for ports and harbours. This will ensure the problems and solutions are jointly owned, are targeting the causes and drivers of harm, and have the maximum impact in delivering safer outcomes for workers on New Zealand ports.

This multi-year programme will:

- Target the key areas of harm
- Have scale, pace and make measurable impact
- Include clear outcomes, milestones, monitoring and evaluation
- Identify and share best practice across ports.

As part of the initial six actions we will also ensure we have outcomes, milestones, and monitoring of impact to show progress being made and whether benefits are being realised. We will do this through regular newsletters and updates to the sector and Ministers.

Indicative timeline for Port Sector: initial priority actions



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