SEVERE CONSEQUENCE RISKS IN CARGO OPERATIONS

Richard Steele, CEO, ICHCA International

By understanding where critical health and safety risks are in the cargo sector, we can better manage them. ICHCA has been collating publicly available information from around the world on the most severe consequences of personal workplace accidents in cargo handling. If we can learn lessons once and make sure that they stay learnt, then our people get to go home in the same condition that they started their shift.

ICHCA International is a not-for-profit membership organisation with a primary focus on supporting the cargo industry continuously improve health and safety. We have analysed approximately 390 incidents involving shore-based workers that have given rise to almost 400 fatalities or significant injuries over the last 23 years.

The first conclusion that the data leads to is that managing port and terminal worker safety requires action both onshore and onboard. The most frequent severe incident locations were quays and cargo, followed by the wider terminal estate, vessels and cargo hold access. Just over half the incidents were on shore and the balance, on board (figure 1).

It is worth pointing out that this data is very specifically looking at a relatively lower frequency,

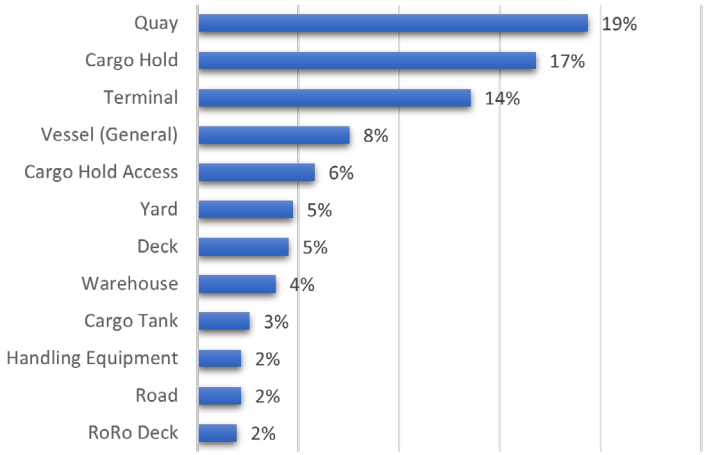

FIG 1.
Severe Consequence Incidents to Shore-based Workers by Incident Location (top 12)

highest human consequence accidents. It does not include lower consequence incidents where a person might need time off work but will recover and return unimpeded relatively quickly. Lower consequence incidents are a different part of the picture and there is no international database of these at the moment.

In raw numbers, bulk carriers have the most cases of severe shore worker 'on-vessel' incidents; more than twice that of General Cargo, RoRo, Container or Tankers (figure 2). But that is not the whole picture. First, vessel type is not always an influencing factor in the incident, it may be coincidental. Second, the world fleet has more of some vessel types than others, more General Cargo than RoRo for example. Acknowledging this degree of generalisation, the data set indicates some vessel types have more and some have fewer accidents than might be expected for the fleet size. Bulk Carriers, RoRo and Container and General Cargo vessels seem to have more of the severe category of incidents than might be expected. Tankers and Cruise Ships have fewer than expected for the respective number of vessels afloat. This is a very broad finding and one that should not be over-emphasised, however, it does suggest the advantage of possible accident reduction measures that are tailored to

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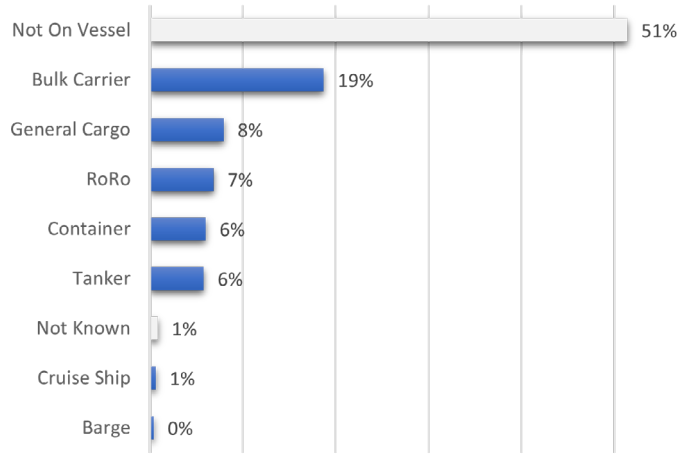

FIG 2.
Severe Consequence Incidents to Shore-based Workers by Vessel Type (top 8)

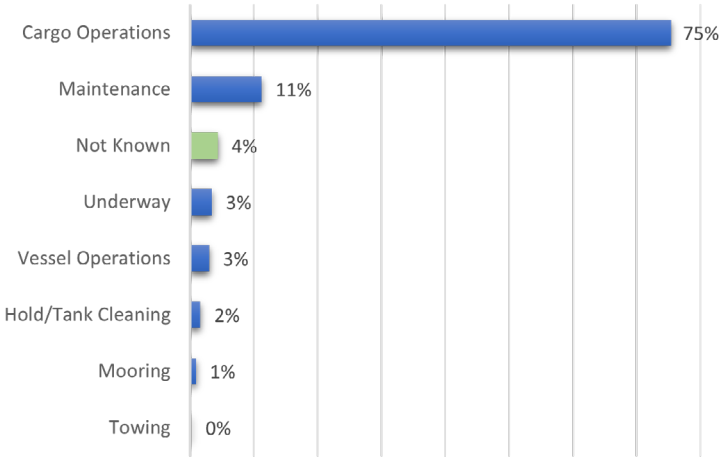

FIG 3.
Severe Consequence Incidents to Shore-based Workers by Activity (top 8)

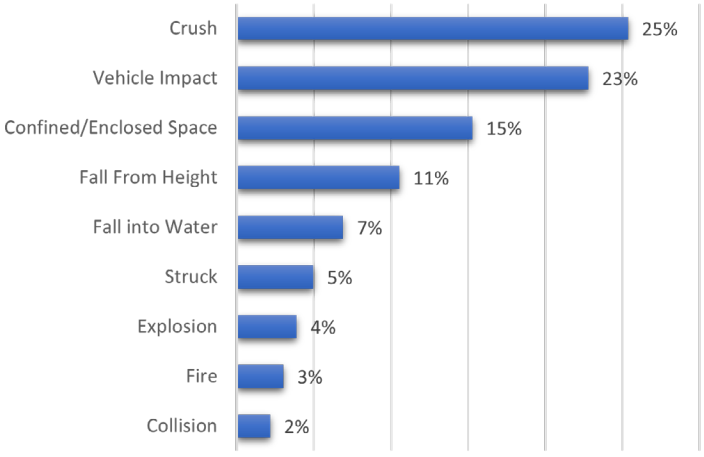

FIG 4.
Severe Consequence Incidents to Shore-based Workers by Cause (Top 9)

different vessel types. It also offers the potential to transfer learning on what works well for some vessel types to other types.

It is perhaps no surprise that three-quarters of severe consequence incidents were associated with cargo handling operations (figure 3). Health and safety need to be managed across the whole of any port or terminal organisation, but the places associated with receiving, loading, unloading, checking, storing, lifting and moving cargo give rise to critical risks and need continuing focus and review. Maintenance additionally stands out. About 11 per cent of severe incidents are associated with this work activity. Our data shows that attention to cargo operations and maintenance are keystones to effective safety management.

We have to generalise the causes of incidents to identify actionable lessons but at the same time it is important that we also try to acknowledge individual human loss; these numbers are about people and they are the priority.

The top four causes of severe incidents are crush, struck by vehicles/equipment, confined spaces and fall from height (figure 4).

The most frequent of severe incidents involved **crush** by cargo or an object; most often during lifting operations. Planning and controlling lifting and moving is a fundamental part of safety management for our industry; it involves designing work processes such that people are **never** in position under a suspended load, and **never** in a place where moving cargo can hit or trap them. Every lift must be risk assessed, supervised and undertaken by a properly

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trained competent workforce, with clear and understandable communication, using the correct equipment in a suitable condition for the work. These controls, and others, are a fundamental part of our modern cargo industry's safe systems of work. It is also vital to devote time to systematic viewing of the way work is really done, as opposed to how it says it is done in the manual. Time taken to walk the job and engage safely with the people doing the work is never wasted.

People are the only soft things in a port or terminal. Contact between people and moving equipment is the second most prevalent cause of severe consequence incidents. It is essential to eliminate this risk where practicable. If elimination is not practicable then the dutyholder should have full control over the loading and unloading of vehicles; movement of vehicles and plant on the terminal; trailer coupling and uncoupling; vehicle/pedestrian access, such as RoRo bridges and vessel ramps; moving/reversing vehicles on RoRo decks and movement of vehicles in container storage areas and lorry parks.

One way of looking at workplace transport is to test that the safety management system delivers a safe site, safe vehicles and safe drivers. Safe site includes reliably separating pedestrians from vehicles. Safe vehicles are correctly maintained, used for the jobs that they were designed for, and can see and be seen. Safe drivers are consistently, systematically trained and certified with a clear understanding of safe working practices. All of these should be monitored and evaluated to ensure that these practices are effective.

Confined spaces ('enclosed spaces' in maritime) have led to multiple fatalities in single incidents. Again, the hierarchy of controls is the premium starting point; don't have people working in confined spaces if there is another way to do the job. Establish and follow a safe system of work where there is no alternative to entering the confined space. Put in place emergency arrangements. Test places that might have a confined space risk before entering, even though they might seem safe. Virtually all severe confined space incidents in our database could have been prevented with a correctly designed and consistently well-executed confined space-safe system of work.

Fall from height is also a priority severe incident cause. As with confined spaces, the start point is to eliminate the need to work at height if there is a safer alternative. Risk assesses, use fall prevention and fall arrest equipment and ensure that your people are trained. Inspect and maintain such equipment and make sure it is used but also make sure it is used as it is designed to be used.

I have heard that the industry tends to shout safety and whisper health. We do not have data for the cargo sector, but other industries see substantially greater numbers of workplace-related ill-health deaths than deaths from accidents. We need to keep up the pressure on protecting health as well as life and limb.

We are more effective working together. We should continue to work with all stakeholders, employers, employees, suppliers and customers, to create industry-wide consensus and thought leadership; sharing the best that everyone has to offer. Learning from the past to address today's problems, but also tomorrow's challenges. Continuously raising standards on behalf of everyone in the cargo supply chain.

ABOUT THE AUTHOR:
Richard Steele is a safety and skills professional with a Master's degree in Training and Development who has been involved in the ports industry for 24 years. Prior to ports, Richard worked in the nuclear industry on safety and skills provision. Richard was the Learning and Development Manager for Associated British Ports for 10 years and led Port Skills and Safety for 11 years before joining ICHCA as CEO in 2021.

ABOUT THE ORGANISATION:
Established in 1952, ICHCA International is an independent, not-for-profit organisation dedicated to improving the safety, productivity and efficiency of cargo handling and movement worldwide. ICHCA's privileged NGO status enables it to represent its members, and the cargo handling industry at large, in front of national and international agencies and regulatory bodies, while its Technical Panel provides best practice advice and develops publications on a wide range of practical cargo handling issues.

Operating through a series of national and regional chapters, including ICHCA Australia, ICHCA Japan plus Correspondence and Working Groups, ICHCA provides a focal point for informing, educating, lobbying and networking to improve knowledge and best practice across the cargo handling chain.

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