Shifting our Performance in Construction Health and Safety

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Who is CHASNZ? www.chasnz.org
What CHASNZ are doing:

• Why fatalities happen?
• Tōtika – decluttering H&S pre-qualification
• Site access – a consistent approach to training, assessment, induction and supervision for our industry
• Project Whakatipu – getting something useful from industry data
• Mental Health in Construction
• Road worker safety
• Client Leadership Framework
Why we need to change

https://www.linkedin.com/pulse/pathology-new-zealand-construction-sector-why-we-killing-alderson/?trackingId=buoS4H%2Bk9jtePGMR7L2jSA%3D%3D
Performance – we need to do something different!

All NZ Construction Fatalities 2011-2019

Known ACC injury causes 2014-2018

* i.e. does not include non defined - circa 12,000 records
Why do workplace fatalities happen?

<table>
<thead>
<tr>
<th>Scenario</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performing a routine (but known hazardous) operation or task with a breakdown in a critical control</td>
<td>42%</td>
</tr>
<tr>
<td>Performing a routine (not known to be hazardous) operation or task but exposed to a change in conditions from normal to abnormal and not recognising or adjusting to this task</td>
<td>29%</td>
</tr>
<tr>
<td>Other human factors (e.g. health related)</td>
<td>11%</td>
</tr>
<tr>
<td>Design flaws in equipment, process, engineering or facility</td>
<td>5%</td>
</tr>
<tr>
<td>Issues in preventative/predictive maintenance and inspection</td>
<td>5%</td>
</tr>
</tbody>
</table>
Why is construction inherently risky

Construction Inherent Risk Profile over Time

Net Construction Inherent Risk Profile over Time
Construction Activities

Time

Construction Risk Profile

Process Performance

Fatality
Creating Altitude and controlling process variation
Creating Altitude (a better control environment) for our number one risk

Roadworker Activities and Conditions

Control Environment

Process Performance

All NZ Construction Fatalities 2011-2019
Tōtika

https://www.chasnz.org/totika
Organisational Competence – Tōtika

- ISO 45001
- Safe+
- Q-Safe

Recognition of external audit
- ISO 45001
- Safe+
- Q-Safe

Supplier classification
- Size
- Primary work activity
- Role

Tōtika Portal

Standard for pre-qualification schemes
- Core criteria
- Verification process
- Competencies

Auditable status

A common view of supplier risk
Audit member prequalification schemes on entry and periodically

Both commercial and internal systems

Measured and graded to Gold, Silver or Bronze Standard

Buyers

- Join the scheme
- Access the database of pre-qualified suppliers

Contractors

- Classification tool showing assessment and audit options
- Scheme rules
- Core criteria for each supplier category
- Template questionnaires
- Verification process requirements
- Competency standard for assessors and moderators

Suppliers

- Business size
- Primary work activity
- Role - Principal Contractor, Principal Designer, Contractor, Designer
- Maximum tendered contract value

The Web Portal
Site Access

https://www.chasnz.org/articles/draft-guide-to-site-access-requirements
Components of Site Access Requirements

01 Foundation Learning | All workers new to the construction industry in New Zealand should have a base level of training to cover common environmental risks. This training could be internal or through an external provider.

02 Assessment | All workers should have their knowledge of construction risks assessed independently from the training source. Those who do not reach the required level should have a plan in place to reach that level.

03 Induction | Site Specific induction should cover site specific risks and processes – and not foundational learning.

04 Supervision | Depending on the status of the person compared to the tasks anticipated on site, an appropriate level of supervision should be in place. A person who has not been trained or passed assessment should only be allowed on site if direct supervision is available.
Mental Health

https://www.chasnz.org/articles/chasnz-mental-health-in-construction-information-for-managers-in-the-construction-industry
It’s not just about Safety - Mental Health in Construction

- The industry has focussed on preventing acute safety issues.
- On average over the last 10 years there have been 10 workplace deaths per year.
- A recent study by BRANZ and Site Safe showed that over the past 10 years 300 construction workers died by suicide – or on average 30 per year.
- We need better data to understand the potential causes of mental illness in the industry.
- We need a strategy to address the issues in the industry and to better support those who need help.
- There are no ‘Silver Bullets’, but we need to act now!
What are we doing now?

Producing a **Mental Health in Construction Strategy** – brings together industry, the mental health sector and government (under the Construction Accord) to get organised to help those who most need it.

**Mates in Construction** being rolled out in Auckland

**Industry tools and advice** now available on the CHASNZ website.
In an emergency **dial 111** if you think they, you or someone else is at risk of harm. Go with the person to the nearest hospital emergency department, or phone your local DHB Mental Health Crisis team.

- Free phone or text **1737** to get access to a counsellor
- Lifeline 0800 543 354 (text 4357)
- Youthline 0800 376 633
- Samaritans 0800 726 666

Project Whakatipu

https://www.chasnz.org/project-whakatipu
https://www.chasnz.org/articles/chasnz-lag-metrics
To become world class in construction health and safety we need to study and understand the drivers behind safety performance...

Health and Safety Outcomes

These relationships may be developed into a formula for predicting health and safety performance – a **Construction Safety Index**
Concept

CHASNZ is in a unique position as a NGO and not for profit to collect and test data from across the construction industry with a view to;

- Understanding the drivers of health and safety performance,
- Understanding and predicting risk
- Testing interventions and strategies
- Developing new benchmarkable lead measures.

While some organisations are starting to invest in advanced analytics for health and safety purposes, there is an exponential advantage in taking an industry approach to analytics, where bigger data sets can produce better and more comparable insights.

A trusted third party such as CHASNZ would allow for secure sharing of data. Resourcing would be required either in partnership with skilled data scientists from corporates, tertiary institutions and/or specialist data analytics companies.

A pilot approach with a small number of initial organisations would allow for proof of concept testing before opening the lake to wider stakeholders.

With enough data and testing a Construction Safety Index (CSI) can be developed that can be used as a lead measure and diagnostic tool for all sizes of organisations.
Single “source of truth” industry data asset to feed analysis and insights

Data Validation

Modelling Attribute Engine

Reporting, Analysis & Visualisation Via Portal

Data Preparation

Privacy by Design

Analytics tools, collaboration tools, applications

Typical data sources

Workers Comp
Employees
Observations
Leave
Training
Performance
Rosters
Operations
External data

APIs

Internal data

External data

Statistical analysis
Advanced analytics
Monitoring
Targeted lists
Construction Safety Index

Privacy by Design
Four Distinct Phases

A phased approach where an initial proof of concept project would seek to prove the value of an industry data lake by working with a small group of pioneer organisations.

Ideal pioneer organisations are those that have significant amounts of safety, people and operational data that they are willing to contribute to the lake as well as seed funding to permit CHASNZ to obtain the capabilities necessary to manage and operate the data lake.

Key capabilities include data scientists, security management, business intelligence and stakeholder facilitation. Potential funding could come from pilot organisations, government, the insurance industry and or BRANZ.

The pilot project would prove the value of a construction data lake and develop an operating model for how other organisations may participate in building the data set with a view to developing.

The pilot organisations would have control over the main research questions considered by the data lake.

1. **Pilot project** with 4-5 contributing mature organisations to test the concept over 6 months. Requires set up of security and data services for CHASNZ. Data cleansing and testing. Benefit of defining ROI. Pilot group create questions.
   Partnerships required with industry organisations, data analyst, data and cloud engineers, translators industry and tertiary research. Funders required.

2. **Industry Data Lake** open for other organisations through APIs, based on proof of concept. Resource Contribution model based on user pays. Target is CSI. Industry dashboards created. 6-12 months.

3. **Subscription model** developed for SMEs. Organisations received targeted advice based on info they submit or through CS interface. 12+ months.

4. **National Data Lake** model where construction data lake works with other industries and offshore to build more insight. 24 months.
Road Worker Safety
Road workers – the most vulnerable road user

- 4 road worker deaths in 2019
- 1 cyclist killed by construction traffic
- Heavy reliance on below the line controls
- No meaningful change to the system as a whole in the last 5 years

- Who’s doing this well?
- What are the systemic changes we need to make?
QUESTIONS
Client Engagement Framework
The Client Engagement Framework

• The intention of the Client Engagement Framework is to create a standard set of expectations and behaviours for clients engaging in construction activity.

• The public and private Client Advisory Groups will be used to test the framework and we ask for endorsement and leadership of the framework from these groups.

• The Framework will support the recently signed Construction Accord – specifically the shared government and industry commitment to health and safety.
The self assessment

• Covers all steps of construction from internal business case to post construction

• Provides exemplars of client actions and behaviours across a range from detracting to passive to active to enhancing

• Once finalised can be developed into a self assessment app

### Client Internal

#### Values

A client that does not see health and safety as a priority and or has not invested in the health and safety of its own people is unlikely to have a positive influence on the contracting supply chain.

A strong ethical and care based approach to health and safety that extends to all workers, employees or contractors, is a foundational base for strong client leadership.

**Top three focus areas:**

1. Empowering those exposed to risks to develop competencies required to do the job safely
2. Ensuring health and safety is part of normal operations not a task on
3. Ensuring that basic human needs are met while on the job – e.g. access to good food, shelter and toilets and adequate rest

### Detracting

- People are the cause of most problems and need to be controlled
- Health and safety is a separate activity from core operations and to be integrated when negative outcomes occur
- No meaningful measures of health and safety presence or absence exist
- Business priorities are over and above care for the individual and community

### Passive

- People are best protected when they follow the rules
- Health and safety is a largely a compliance activity and can be managed by driving improvement through focus on infringements
- Health and safety is measured by the absence of accidents and incidents
- Social and individual outcomes are not seen as having a strong relationship to business activity

### Active

- Understanding people and the ideas they make is seen as important in problem solving and investigations
- Health and safety is seen as an outcome of successful operations and aligned to other outcomes such as productivity and quality
- Health and safety is measured by the presence of strong standards that minimise the prospect of human error
- The needs of employees are considered and balanced against business priorities

### Enhancing

- People are an asset to be harnessed in solving problems and setting objectives. Those line employess are seen as the solution to enhanced safety performance
- Health and safety is seen as an ethical responsibility and fundamental right to work without injury for all people
- Health and safety is measured by the presence of effective leaders who minimise the risk of human error
- Core for the individual and society that the organisation influences is a core value
QUESTIONS ANSWERED HERE EVEN THE SILLY ONES
Talk to Us!

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www.CHASNZ.org for key stats, tools and updates