

Technical Paper: Root cause analysis report of substance use in Ontario sawmills

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Executive Summary

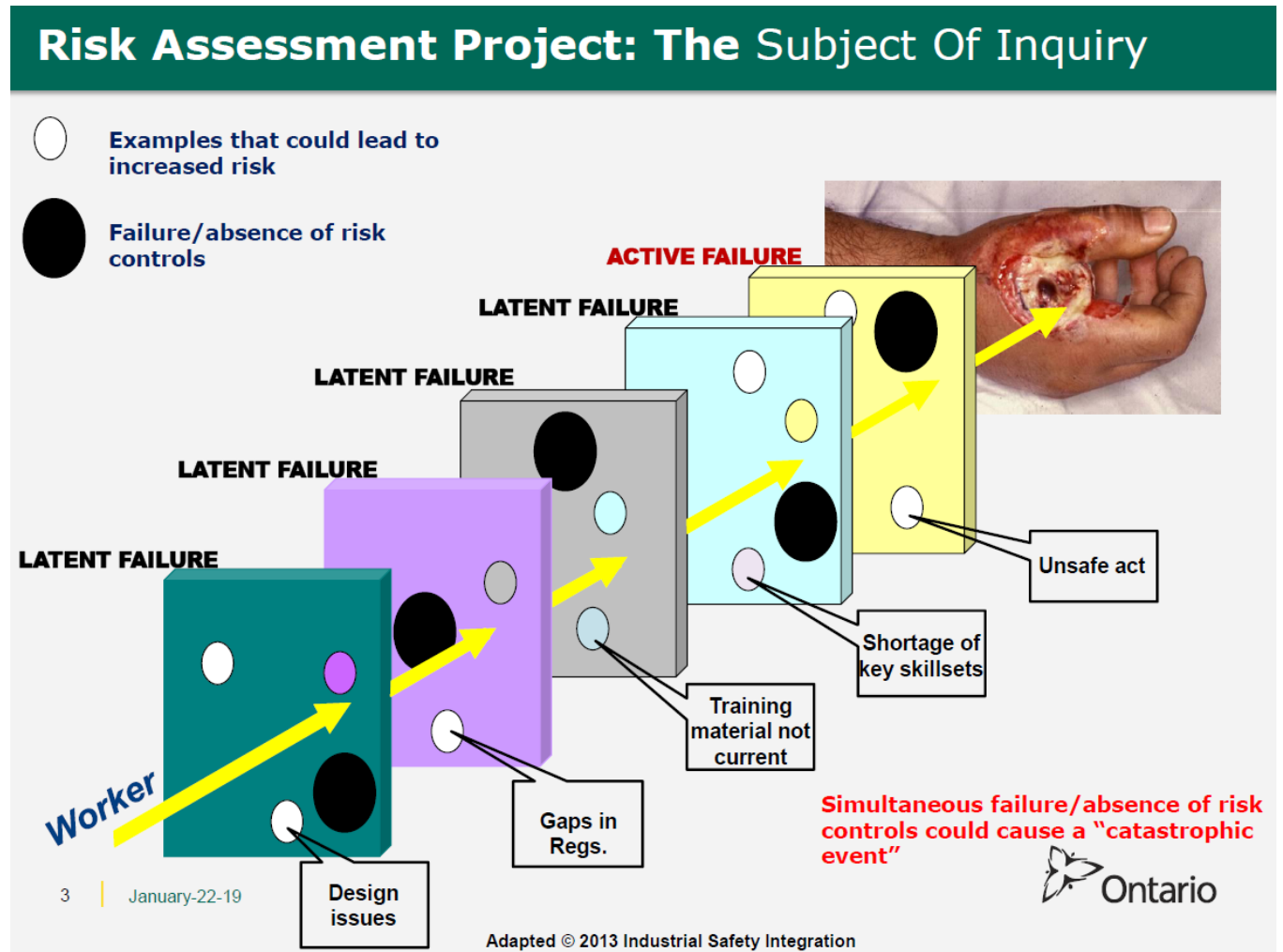
Over two years, a volunteer group of industry subject matter experts met face-to-face to conduct a risk assessment of the Ontario sawmill industry, and later, a root cause analysis of its top health and safety risk.

The group of 15 representatives from management, labour, government, and not-for-profit organizations, was facilitated by Sujoy Dey, Ph.D., Corporate Risk Officer at the Ministry of Labour (MOL). In advance of the workshop, each industry expert submitted their top health and safety concerns, and during risk assessment workshop, more than 80 identified risks were reviewed and discussed by the group. Both management and labour agreed the top risk was substance use.

The experts' root cause analysis workshop determined the top 10 causal factors for substance use in the workplace, as well as specific controls for each. Next steps include an immediate focus on the five most common systemic weaknesses regarding substance use and workplace health and safety:

- Clearly defined, effective, well-written and well-communicated policies
- Specific training for supervisors on recognizing and dealing with impairment
- Basic awareness training to all in the workplace (including how to recognize impairment)
- Inventory of safety-sensitive job tasks, which is reinforced through written policy
- Training for management and supervisors to communicate effectively (leadership program)

1. Risk Assessment Project: The Subject of Inquiry



Pictured above: The “swiss cheese” model of simultaneous failure, or absence of risk controls, that could cause a “catastrophic event.” In this model, when there are latent failures in design, gaps in regulation, outdated training material, shortage of skillsets, and an unsafe act, all the “holes” in the system line-up to potentially cause a critical injury or fatality.

2. Background: Revisiting the 2017 Risk Assessment Workshop Results

In June 2017, a volunteer group of subject matter experts met face-to-face for a sawmill workplace risk assessment at Workplace Safety North (WSN) headquarters in North Bay, Ontario. The group of 15 representatives from management, labour, government, and not-for-profit organizations, was facilitated by Sujoy Dey, Ph.D., Corporate Risk Officer at the Ministry of Labour (MOL).

In advance of the workshop, each industry expert submitted their top health and safety concerns, and during the one-day workshop, all 80 identified risks were reviewed and discussed by the group.

When it came time for the final vote on the top risks, only actual workers and managers in the sawmill industry were allowed to vote. In order to ensure an open and fair voting process, handheld electronic devices recorded votes anonymously. Both labour and management agreed: the top danger sawmill workers face is substance abuse.

“As they identified specific conditions and situations that could result in injury or illness, we asked the group, ‘What keeps you up at night?’” says Dr. Dey, “And both workers and managers agreed: the number one risk in sawmills is substance abuse.” Dey notes the category includes not just alcohol and recreational drugs, but also prescription drugs, such as pain medication.

Top 10 health and safety risks in Ontario sawmills

1. Substance use: Under the influence of drugs and alcohol in the workplace
2. Training issues: Employees taking shortcuts
3. Not properly locking out or guarding equipment
4. Age: Inexperience of new, young workers who don't see the dangers
5. Psychosocial: Lack of focus, distraction of worker while performing duties
6. Slips, trips, and falls
7. Occupational disease: Loss of hearing, ringing in the ears
8. Psychosocial: Stress, including job and family pressures
9. Working from heights: Absence of engineered anchor points
10. Caught in or crushed by mobile equipment

Being under the influence of alcohol or drugs – prescription or not – is a longstanding safety concern in the workplace, and it's a difficult thing to measure (unlike, for example, Workplace Safety and Insurance Board statistics on slips, trips, and falls in the workplace). Even though there are issues regarding social stigma, privacy, and human rights concerns, [drug and alcohol use in the workplace](#) is an issue that's too risky to ignore.

“An interesting outcome of the workshop was that the number one risk was not on Workplace Safety North's radar as a priority concern,” says Tom Welton, WSN Industrial Director. “WSN historically uses WSIB [Workplace Safety and Insurance Board] statistics to provide a clear picture of workplace injuries and trends.

“The risk assessment workshop provided direct feedback from industry experts about their perception of the workplace. By using leading rather than lagging indicators, WSN can be more proactive,” says Welton.

Psychological health and safety in the workplace

Three of the top 10 risks involve psychosocial or mental health issues: substance use, lack of focus, and stress. As more workplaces gain a better understanding about the importance of [taking a holistic approach to health and safety and having a supportive workplace culture](#) that encourages both self-care and concern for co-workers, research also supports an increased focus on overall well-being.

The results of the workshop were reviewed by the Ontario volunteer industry advisory committee for Forestry, Paper, Printing, and Converting sectors. The committee, in conjunction with WSN, is supportive of the next step: a detailed analysis of the root causes of substance abuse in the workplace, and the creation of an effective prevention plan.

“Using the risk assessment method and analyzing its root causes within the workplace is an extremely effective method to identify leading indicators to allow industry to work more proactively in addressing key concerns,” says Dr. Dey.

Following review and discussion, both industry labour and management voted that the top risk was substance use: “Inappropriate use of alcohol, prescription, and recreational drugs can have serious unintentional adverse effects on workplace safety and the well-being of workers.”

One year later, in June 2018, the group of industry experts met for two days to determine the root cause of substance use in the workplace, and develop critical controls that can be put in place to address the risk.

3. Root-Cause Analysis: Risk Statement

Based on the results of the sawmills risk assessment, the following risk statement was selected by the Workplace Safety North Advisory Committee (Forestry, Paper, Printing, and Converting) for Root-Cause Analysis using the “Fishbone” approach:

“Inappropriate use of alcohol, prescription and recreational drugs can have serious unintentional adverse effects on workplace safety and the wellbeing of workers.”

4. Root-Cause Analysis Workshop: A Bipartite and Collective Process

- Workshop participants were peer-recognized industry and system experts.
- Workshop process was open, transparent, and collaborative.
- All participants met face-to-face; there was no teleconferencing.
- Ranking and prioritization of causal factors for substance use was voted on by industry management and labour only; MOL and WSN did not vote.

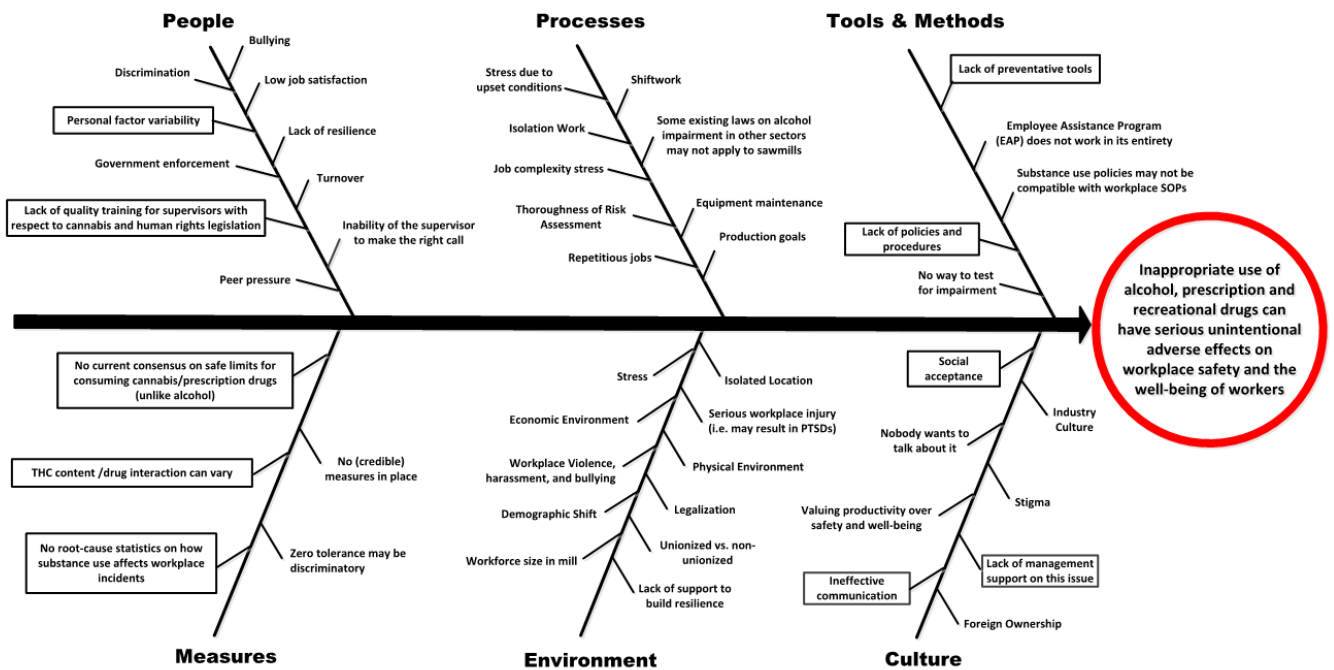
Validation of the results, in addition to workshop subject matter expert participants, included having the results presented and discussed: among sawmill industry constituents, at conferences and health and safety meetings, as well as at Workplace Safety North advisory board meetings for the Ontario forestry, paper, pulp and converting sector.

5. Workshop Participants: Industry, Public Health, System Partners
Participants from the following organizations attended:

- Rayonier
- EACOM
- Resolute
- McRae Lumber
- UNIFOR Union Local 31-X
- Public Health Unit – Sudbury and Districts
- Workplace Safety North
- Ministry of Labour

6. “Fishbone” Diagram: Primary Causal Factors

Sawmills Root Cause Analysis for Substance Use



March 2018
Created by: Christine Bibby, Risk Assessment Team, Ministry of Labour

CLOSE-UP of fishbone diagram: Primary causal factors of substance use in the workplace
Tools and methods, culture, processes, environment, people, measures

48 Causal Factors

Priority Rank	Category	Primary Causal Factors
1	Tool/Methods	Lack of preventative tools
2	Culture	Ineffective communication

Priority Rank	Category	Primary Causal Factors - continued
3	Measures	No current consensus on safe limits for consuming cannabis/prescription drugs (unlike alcohol)
4	People	Personal factor variability
5	Tool/Methods	Lack of policies and procedures
6	Culture	Lack of management support on this issue
7	People	Lack of quality training for supervisors with respect to cannabis and human rights legislation
8	Measures	THC content /drug interaction can vary
9	Culture	Social acceptance
10	Measures	No root-cause statistics on how substance use affects the workplace
11	Measures	No (credible) measures in place
12	Tool/Methods	Employee Assistance Program (EAP) does not work in its entirety
13	Culture	Nobody wants to talk about it
14	People	Inability of supervisor to make the right call
15	Tool/Methods	No way to test for impairment
16	Environment	Serious workplace injury (i.e. may result in PTSDs)
17	Environment	Workplace Violence, harassment, and bullying
18	Measures	Zero tolerance may be discriminatory
19	People	Peer pressure
20	Process	Shiftwork
21	Culture	Stigma
22	Environment	Stress
23	People	Bullying
24	Culture	Industry culture
25	Environment	Isolated Location
26	Environment	Lack of support to build resilience
27	Environment	Legalization
28	People	Lack of resilience
29	Process	Thoroughness of Risk Assessment
30	Environment	Demographic Shift
31	Process	Isolation Work
32	People	Low job satisfaction
33	Environment	Physical Environment
34	Process	Equipment maintenance
35	Process	Repetitious jobs
36	People	Discrimination
37	Environment	Economic Environment
38	People	Turnover
39	Process	Production goals
40	Process	Job complexity stress
41	Environment	Workforce size in mill
42	Tool/Methods	Substance use policies may not be compatible with workplace SOPs
43	Process	Stress due to upset conditions
44	Environment	Unionized vs. non-unionized
45	Culture	Valuing productivity over safety and well-being
46	Process	Some existing laws on alcohol impairment in other sectors may not apply to sawmills
47	Culture	Foreign Ownership
48	People	Government enforcement

7. Top 10 Primary Causal Factors: List of Controls

1. **Lack of preventative tools** - policies and procedures, testing, communication.
2. **Ineffective communication** at the workplace on this topic.
3. **No current consensus from governing bodies on safe limits** for consuming cannabis or prescription drugs (unlike alcohol).
4. **Personal factor variability** - substance use affects people differently.
5. **Lack of policies and procedures** including lack of clarity, effectiveness and communication, if any.
6. **Lack of management support on this issue** – unclear understanding and expectation from management (e.g. training needs, supervision, awareness).
7. **Lack of quality training for supervisors** (regarding cannabis and human rights legislation).
8. **THC content and drug interaction can vary.**
9. **Social acceptance.**
10. **No root-cause statistics on how substance use affects workplace incidents** – lack of information and data.

Next, the industry group of subject matter experts got down to work to develop controls that could be put in place for the main causal factors, and address the risk of substance use in the workplace.

8. Critical controls to address primary causal factors of substance use in workplace

Note: Control lists are not in any order of priority

1. Lack of preventative tools - controls

- Clearly defined, effective, well-written and well-communicated policies
- Needs assessment or survey for employees at the worksite
- Good communication regarding substance use (clear, concise, know-your-audience, practical, and trustworthy approach)
- Clear definitions when developing preventative tools
- Clarity on avenues where one can seek help
- Specific training for supervisors (e.g. understanding substance use, recognizing and dealing with impairment)
- Develop a test or process (procedure)
- Random drug and alcohol testing
- Employer develops outreach program as part of training
- Basic awareness training for everyone in the workplace (including how to recognize impairment)

2. Ineffective communication - controls

- Good communication regarding substance use (clear, concise, know-your-audience, practical, and trustworthy approach)
- Awareness and promotional material to illustrate potential impact if inappropriate substance use
- Training for management and supervisors to communicate (leadership program) effectively
- Workplace participation (active workers and supervisor communication)
- Give people ability to talk without fear
- Multiple communication avenues
- Suggestion box or innovation box (method for worker to give anonymous feedback)
- Select internal employees as safety champions

3. Lack of current consensus from governing bodies regarding safe limits for consuming cannabis and prescription drugs (unlike alcohol) - controls

- Government should set a clear standard, provide legislation
- Need a clear definition of impairment
- Employers should regularly review ongoing legislation and legal developments and update their policies accordingly¹
- Set goals and limits
- Promote healthy lifestyle and safety culture
- Clearly defined, effective, well-written and well-communicated policies
- Good communication regarding substance use (clear, concise, know your audience, practical, and trustworthy approach)
- Policies and procedures should be tailored to individual workplace, or individual
- Awareness and promotional material to illustrate potential impact of inappropriate substance use
- Employers should enact a clear drug policy that includes the definition of “impairment” in a way that captures medical marijuana use, and when and where it is acceptable. Policies on drug use must define what it means to be impaired and provide details on how the policy applies to medical cannabis. Any prescription drug policies should be enforced in a uniform manner to ensure that medical marijuana is treated equally with other prescriptions¹

4. Personal factor variability - controls

- Risk and needs assessment
- Job safety analysis
- Inventory of safety-sensitive job tasks
- Promote healthy lifestyle and safety culture
- Workplace health program (regular general health screening, for example, testing blood pressure)
- Seek out free resources (e.g. District Health Unit – newsletters, documentation)

5. Lack of policies and procedures - controls

- Clearly defined, effective, well-written and well-communicated policies
- Policy should be inclusive of all substances (alcohol, prescription, and recreational drugs)
- Policies around substance use should be consistent with existing policies (e.g. Workplace Violence and Harassment Policy)
- Workplace participation with active workers (e.g. Joint Health and Safety Committee, Health and Safety Rep) while creating policies and procedures
- No gut-reaction or data-free policy development
- Inventory of safety-sensitive job tasks
- Policies and procedures should be tailored to individual workplace and individual
- Government should have two separate regulatory streams (recreational vs. medical) to help employers understand their duty to accommodate. A separate medical stream allows employers to more easily verify when they have a duty for medical purposes¹

6. Lack of management support on the issue of substance use - controls

- Clearly defined, effective, well-written and well-communicated policies
- Results-based accountability for all levels of management
- Establish a culture of trust, openness and effective communication
- Specific training for supervisors (e.g. recognizing and dealing with impairment)
- Training for management and supervisors to communicate (leadership program) effectively
- Basic awareness training for everyone in the workplace (including how to recognize impairment)
- Sensitivity training around mental health
- Ongoing and refresher training (e.g. Leadership, awareness, sensitivity)
- Clear expectations from management around substance use

7. Lack of quality training for supervisors (cannabis and human rights legislation) - controls

- Clearly defined, effective, well-written and well-communicated policies
- Policies and procedures should be tailored to individual workplace, and individual
- Workplace participation with active workers (e.g. JHSC, OHS Rep) while creating policies and procedures
- Policies around substance use should be consistent with existing policies (e.g. Workplace Violence and Harassment Policy)
- Training should be inclusive of all substances (alcohol, prescription and recreational drugs)
- Impact of human rights with regards to workplace substance use policies
- Specific training for supervisors (e.g. recognizing and dealing with impairment)
- No gut-reaction or data-free policy development
- Inventory of safety-sensitive job tasks
- Government should have two separate regulatory streams (recreational vs. medical) to help employers understand their duty to accommodate. A separate medical stream allows employers to more easily verify when they have a duty for medical purposes¹

8. THC content and drug interaction can vary - controls

- Government should set a clear standard with legislation
- Clearly defined, effective, well-written and well-communicated policies
- Good communication regarding substance use (clear, concise, know your audience, practical, and trustworthy approach)
- As with medical marijuana, recreational cannabis should be clearly labelled with the THC and other relevant content to allow employees to guide their choices and provide an indicator on impairment levels¹
- Develop information geared to employee needs
- Awareness and promotional material to illustrate potential impact of inappropriate substance use
- Promote healthy lifestyle and safety culture

9. Social acceptance - controls

- Awareness of the effects and impact to the workplace's tolerance to the substance use (e.g. due to legalization, bonding over alcohol, demographics such as family, population mix, racial stereotypes)
- Understanding that legalization is not acceptance
- Understanding that social acceptance of inappropriate substance use does not mean workplace acceptance
- Sensitivity training on stigma around substance use

10. No root-cause statistics on how substance use affects the workplace - controls

- Employers must have open-minded investigation procedures (e.g. root-cause analysis)
- Pre-task risk assessment
- Job safety analysis
- Inventory of safety-sensitive job tasks
- Understand the “whats” and the “hows” when it comes to measures
- More acceptance of existing literature and data reflective of workplace demographics
- Training on risk assessment and root-cause analysis
- Understanding what the hazard is (physical and psychological)
- Assess controls for the hazard

9. Next Steps: What we should focus on immediately

Based on a scan of controls identified for the top 10 primary causal factors, it is beneficial, as a start, to focus right away on the following five common mitigation actions (current systemic weaknesses)

- A. Clearly defined, effective, well-written and well-communicated policies**
- B. Specific training for supervisors on recognizing and dealing with impairment**
- C. Basic awareness training to all in the workplace (including how to recognize impairment)**
- D. Inventory of safety-sensitive job tasks, which is reinforced through written policy**
- E. Training for management / supervisor to communicate (leadership program) effectively**

10. References

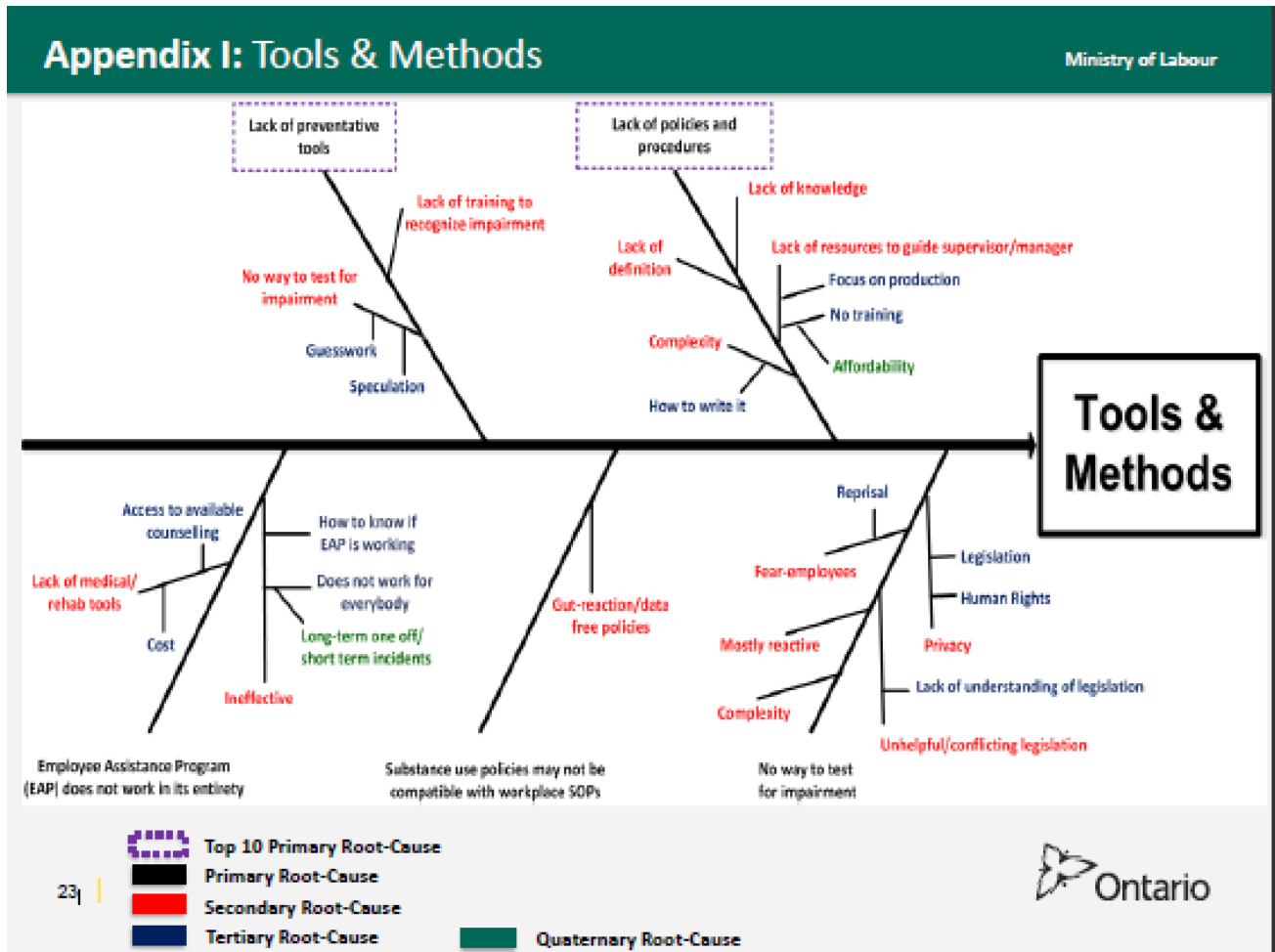
1. Clearing the Haze: The Impacts of Marijuana in the Workplace; Human Resources Professionals Association (HRPA)
2. Policy on Drug and Alcohol Testing; Ontario Human Rights Commission, 2016
3. Workplace Strategies: Risk of Impairment from Cannabis; Canadian Centre for Occupational Health and Safety, June 2017
4. Reducing Alcohol-related Harm in Canada: Toward a culture of Moderation – Recommendations for a national alcohol strategy, April 2017
<http://www.ccsa.ca/Resource%20Library/ccsa-023876-2007.pdf>
5. Alcohol and the Workplace; Alberta Health Services, 2017
<https://www.albertahealthservices.ca/assets/info/hp/edu/if-hp-edu-amh-alcohol-in-theworkplace.pdf>
6. Workplace Strategies for Mental Health: An Initiative of the Great-West Life Centre for Mental Health in the Workplace
<https://www.workplacestrategiesformentalhealth.com/psychological-health-and-safety/impairment-policy>

Related

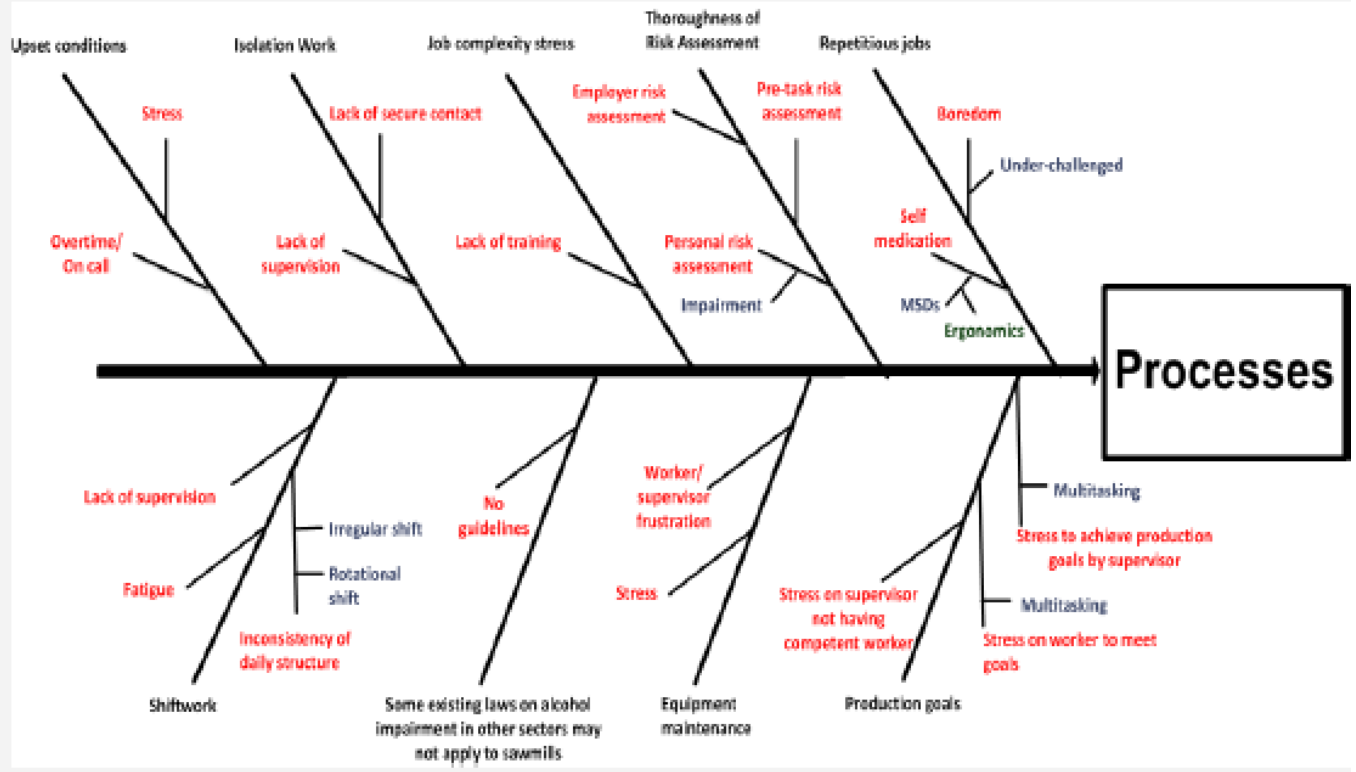
Top 10 health and safety risks in Ontario sawmills

<https://www.workplacesafetynorth.ca/news/news-post/top-10-health-and-safety-risks-ontario-sawmills>

11. Appendix I –VI: “Fishbone Diagram” for Secondary, Tertiary and Quaternary Causal Factors



Appendix II: Processes

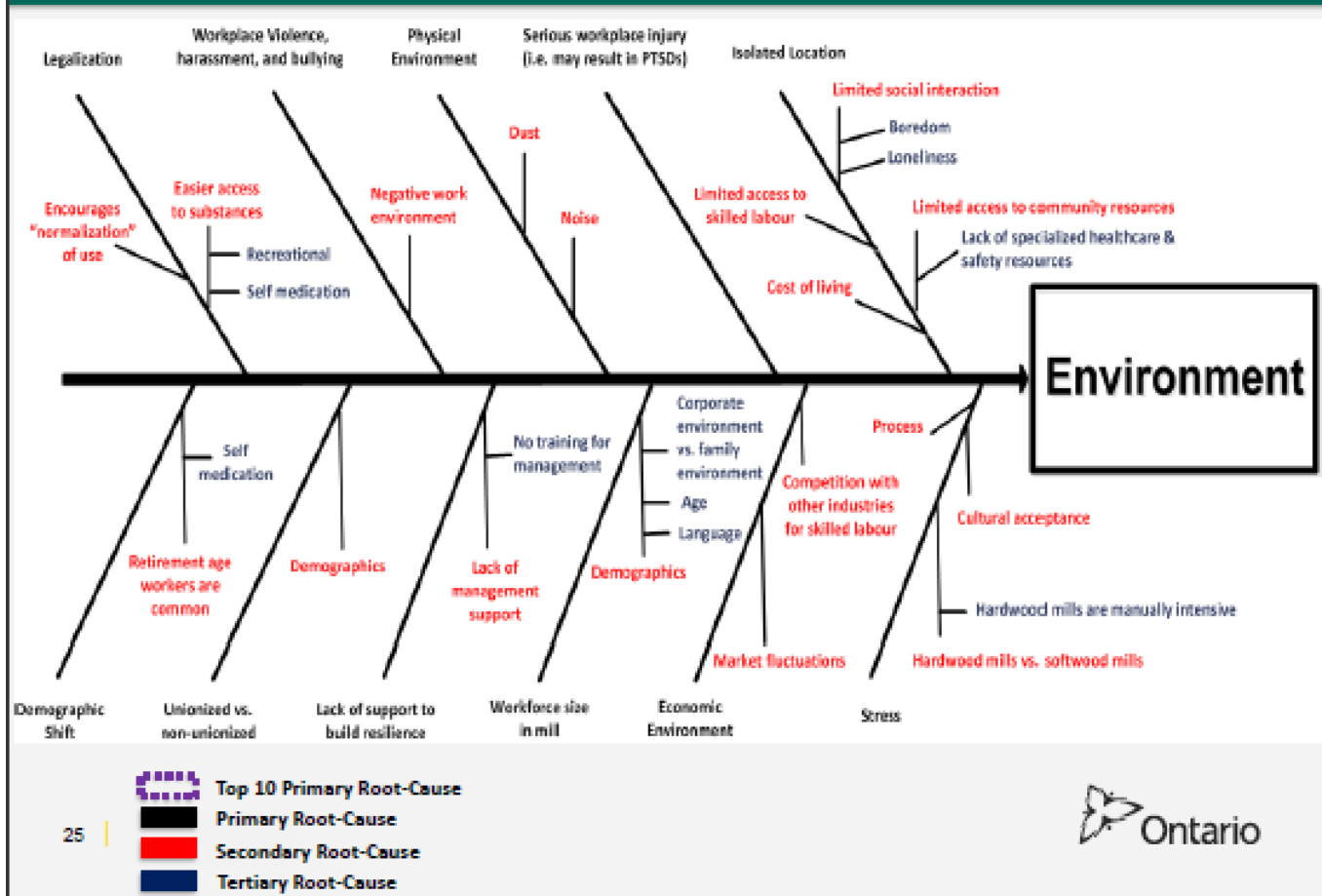


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- Top 10 Primary Root-Cause
- Primary Root-Cause
- Secondary Root-Cause
- Tertiary Root-Cause
- Quaternary Root-Cause

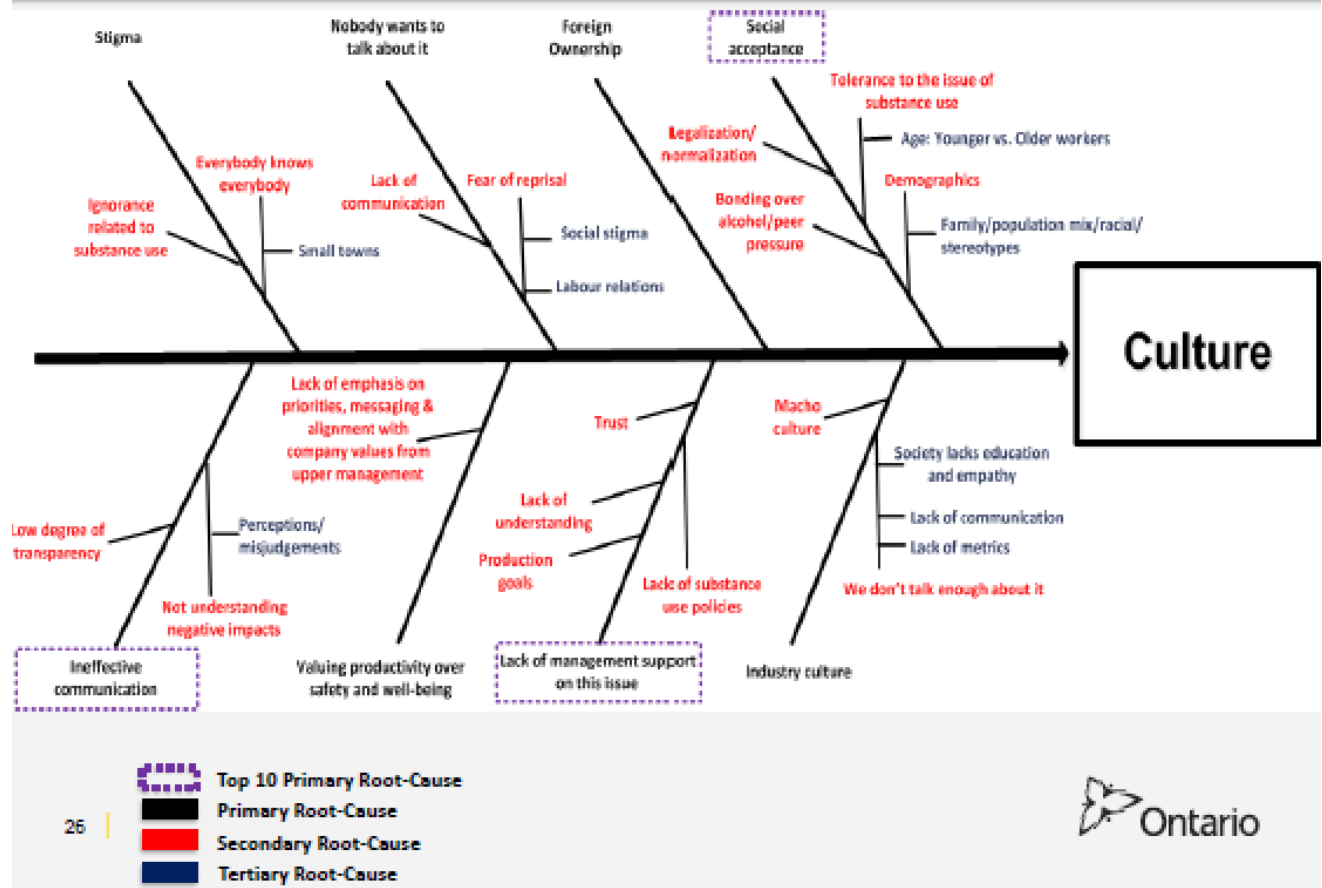


Appendix III: Environment

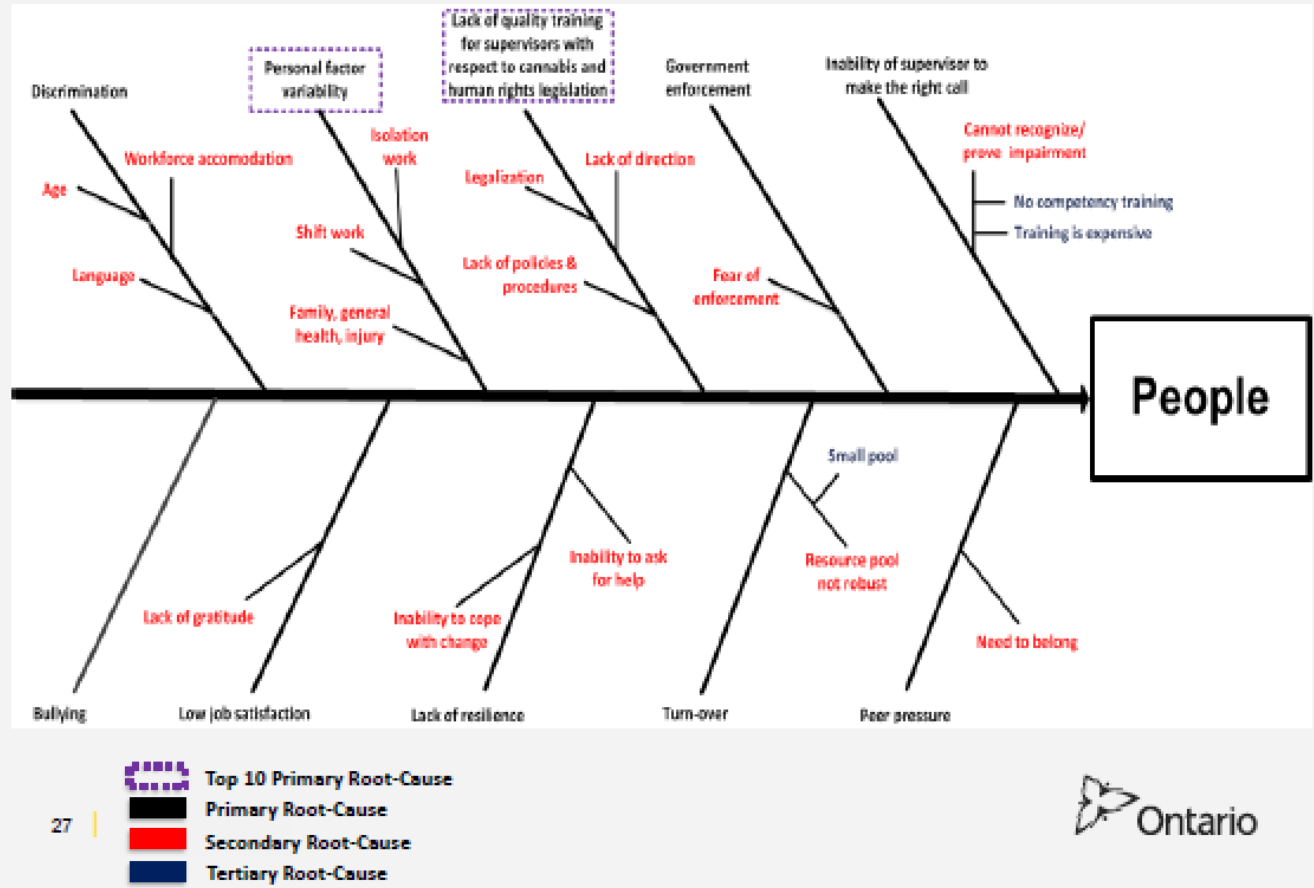


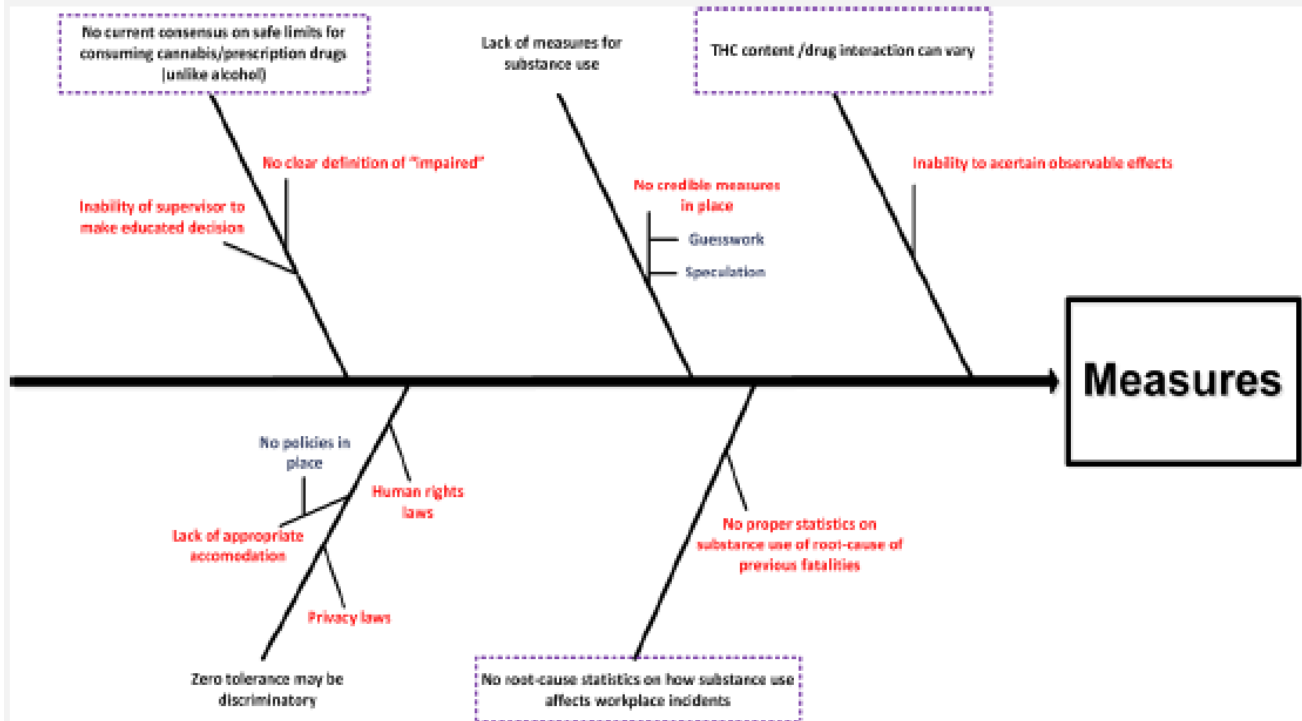
Appendix IV: Culture

Ministry of Labour



Appendix V: People





- Top 10 Primary Root-Cause
- Primary Root-Cause
- Secondary Root-Cause
- Tertiary Root-Cause


12. Appendix A: Risk Assessment Methods/Standards

Appendix A: Risk Assessment Methods/Standards* Ministry of Labour

<ol style="list-style-type: none">1. Bayesian Analysis2. Bow tie analysis3. Brainstorming (e.g. what-if)4. Business impact analysis5. Cause and effect analysis6. Checklists7. Computer Hazard and Operability Studies (CHAZOP)8. Consequence Analysis (also called Cause-Consequence Analysis)9. Likelihood/Consequence matrix10. Construction Hazard Assessment and Implication Review (CHAIR)11. Decision tree12. Delphi technique13. Energy Barrier Analysis (or Energy Trace Barrier Analysis)14. Environmental risk assessment15. Event tree analysis16. Failure Mode and Effect Analysis (FMEA)17. Failure mode, effect and criticality analysis18. Fault Tree Analysis19. Fishbone (Ishikawa) Analysis	<ol style="list-style-type: none">20. Hazard analysis and critical control points21. Hazard and Operability studies (HAZOP)22. Human Error Analysis (HEA)23. Human reliability analysis24. Job Safety Analysis (JSA)25. Level of Protection Analysis (LOPA)26. Markov analysis27. Monte Carlo Analysis28. Preliminary Hazard Analysis (PHA)29. Reliability centered maintenance30. Scenario analysis31. Sneak circuit analysis32. Structured/semi-structured interviews33. SWIFT (i.e. structured what-if)34. Systemic Cause Analysis Technique (SCAT)35. Workplace Risk Assessment and Control (WRAC)
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Risk Management Standards:

1. Risk Management Principles and Guidelines (ISO 31000:2009)
2. Risk Assessment Techniques (ISO/IEC 31010:2009)
3. OH&S Hazard Identification and Elimination and Risk Assessment and Control (CSA Z1002)
4. Process Safety Management (CSA Z767-17)
5. Enterprise Risk Management (COSO 2004)
6. Global Minerals Industry Risk Management (GMIRM)
7. International Council on Mining & Metals (ICMM)


*** Not an exhaustive list**

13. Appendix B: Workshop Contacts

For additional information or questions, please contact:

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14. Appendix C: Poster: Top 10 health and safety risks in Ontario sawmills



TOP 10 HEALTH AND SAFETY RISKS IN SAWMILLS

As identified by workers, supervisors, and employers in the Ontario sawmill industry through a Ministry of Labour-facilitated risk assessment workshop in partnership with Workplace Safety North



1. Substance use: Under the influence of alcohol, prescription or other drugs.



6. Slips, trips, and falls: Falls on same or lower level, jumps to lower level.



2. Workers taking shortcuts: Gaps in training, coaching, supervision.



7. Occupational disease: Loss of hearing, ringing in the ears.



3. Machine lock out, guarding: Not properly locking out or guarding equipment.



8. Psychosocial: Stress, including job and family pressures.



4. Age: Inexperience of new and young workers who don't see the dangers.



9. Working from heights: Absence of engineered anchor points.



5. Psychosocial: Lack of focus, distraction of worker while performing duties.



10. Machine lock out, guarding: Caught in or crushed by mobile equipment.

The internal responsibility system (IRS) is a system, within a workplace, where everyone shares responsibility for occupational health and safety that is appropriate to their role and function within the workplace. All workplace parties — including employers, managers, supervisors, and workers — need to do their part to raise awareness of risks, and follow and promote safety procedures to help make workplaces safer.

For more information, please contact your WSN Health and Safety Specialist or visit workplacesafetynorth.ca



705 474 7233
1 888 730 7821 (Toll free Ontario)
workplacesafetynorth.ca



15. Appendix D: Poster: Top 10 causes of substance use in Ontario sawmills

Top 10 causes of substance use in Ontario sawmills

Workplace impairment is top health and safety risk

As identified by workers, supervisors, and employers in the Ontario sawmill industry through Ministry of Labour-facilitated risk assessment and root-cause analysis workshops in partnership with Workplace Safety North.

- **1. Lack of preventative tools** - policies and procedures, testing, communication.
- **2. Ineffective communication** at the workplace on this topic.
- **3. No current consensus from governing bodies on safe limits** for consuming cannabis or prescription drugs (unlike alcohol).
- **4. Personal factor variability** - substance use affects people differently.
- **5. Lack of policies and procedures** including lack of clarity, effectiveness and communication, if any.
- **6. Lack of management support on this issue** - unclear understanding and expectation from management.
- **7. Lack of quality training for supervisors** (regarding cannabis and human rights legislation).
- **8. THC content and drug interaction can vary.**
- **9. Social acceptance.**
- **10. No root-cause statistics on how substance use affects workplace incidents** - lack of information and data.

For a detailed list of critical controls you can put in place to help prevent impairment in the workplace, read the technical paper: Root cause analysis report of substance use in Ontario sawmills.

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