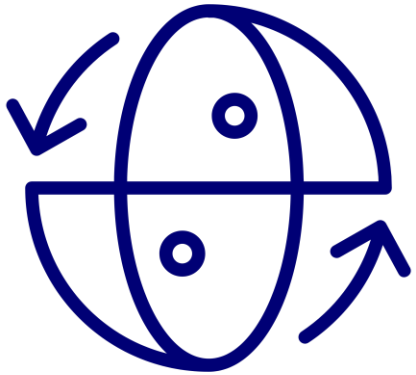
Evolving approaches to workplace drug testing
How aware are you of the changes and the impact?

30 | September | 26

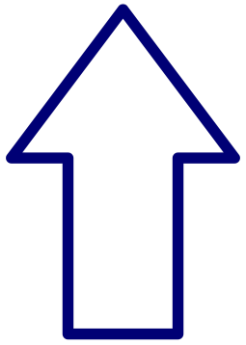
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Global Drug Prevalence

1 in 12



Increase of **34%**



256M
Cannabis

63M
Opioids

32M
Amphetamines



25M
Cocaine

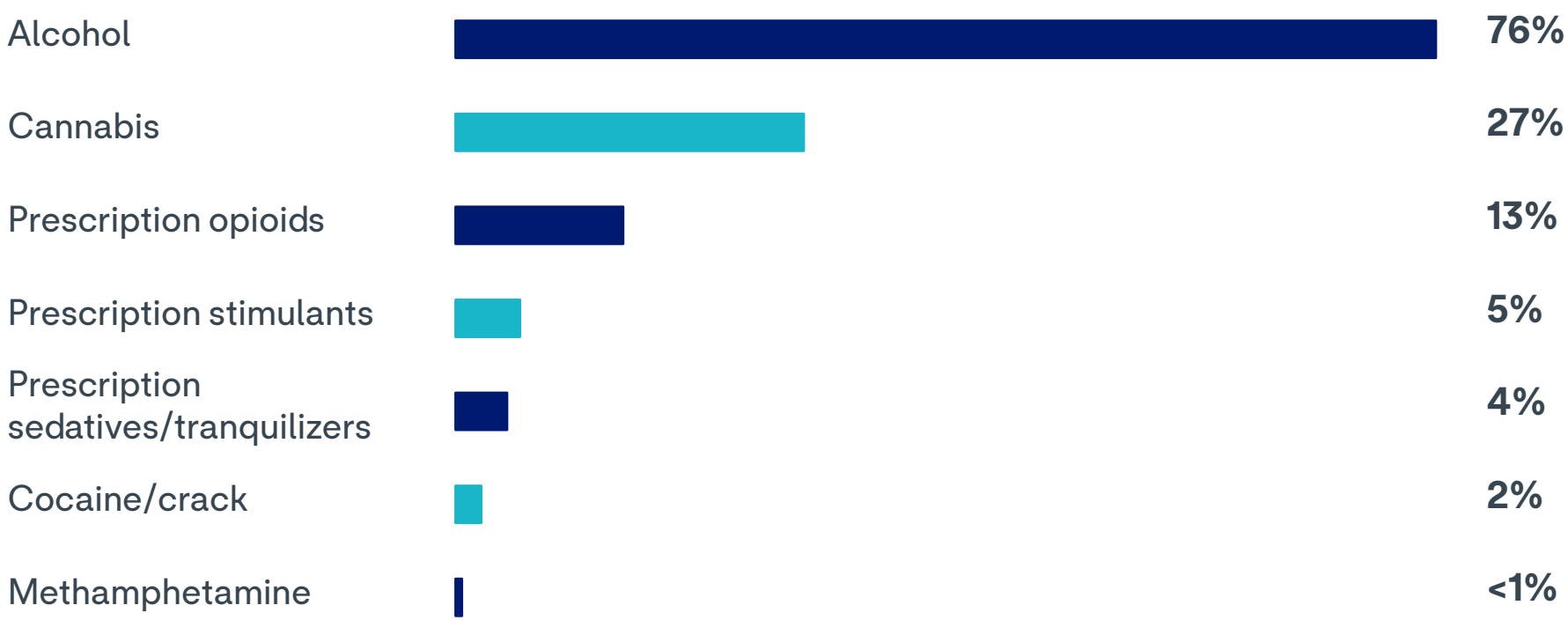
21M
Ecstasy

United Nations Office on Drugs and Crime 2026. World Drug Report 2026. https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2026.html

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Substance Use Among Canadians Aged 15+

% who reported use in the past year



Key takeaway

Alcohol remains the most commonly used substance among Canadians (76%), while more than one in four report cannabis use (27%).

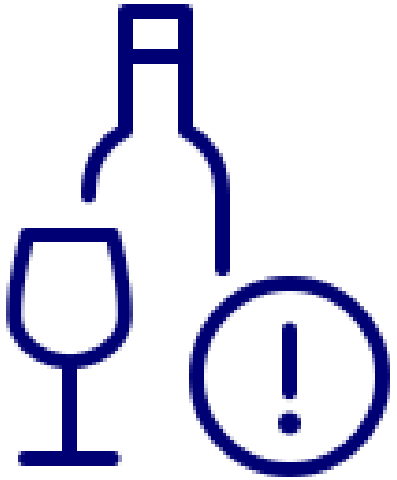
Prescription opioid use remains notable at 13%.

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Health Canada. Canadian Alcohol and Drugs Survey (CADS): Summary of Results for 2019. Government of Canada; 2020. Accessed August 15, 2026. https://www.canada.ca/en/health-canada/services/canadian-alcohol-drugs-survey/2019-summary.html

Drugs in the Workplace: Why it matters

- Substance use is a reality across all industries and occupations in Canada. Alcohol remains the most commonly used substance, while cannabis use has increased following legalization.
- Nearly **40% of Canadian workers surveyed reported cannabis use within the previous year**, highlighting the importance of workplace impairment management.
- Work tasks — whether physical, cognitive, or safety-critical — require focus, sound judgment, coordination, and quick decision making.
- In safety-sensitive environments, even small reductions in alertness may increase the risk of incidents and injuries.
- Driving is a safety-critical activity requiring constant attention, rapid decision-making, and physical coordination.
- **Impairment contributes to preventable incidents**, near-misses, and long-term harm.



Institute for Work & Health. Cannabis Use and the Canadian Workplace II. October 2020. Accessed August 15, 2026. https://www.iwh.on.ca/projects/workplace-cannabis-use-and-perceptions-among-canadian-workers

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Understanding Impairment

- **Both drugs and alcohol can impair** an individual's judgement, coordination and overall wellbeing.
- It is a critical factor when considering safety critical environments such as workplaces and at the roadside.
- Understanding and **recognizing impairment is critical** due to the increased risk of factors for accidents and injuries.

Workplace Impact

- Work tasks — whether physical, cognitive, or safety-critical — require focus, sound judgment, coordination, and quick decision making.
- Driving is a safety-critical activity requiring constant attention, rapid decision-making, and physical coordination.
- **Impairment contributes to preventable incidents**, near-misses, and long-term harm.



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Workplace Impairment: A Safety and Business Risk

- Cannabis use among Canadian workers increased from **30.4% to 39.3%** in surveys conducted before and after legalization.
- This is particularly noticeable in safety-sensitive industries:
  - **33% of workers and managers in safety-sensitive construction roles** reported consuming alcohol or other drugs shortly before work, during work, or attending work while intoxicated, high, or hungover.
  - Nearly **40% of construction managers** reported not feeling adequately trained to address workplace impairment concerns.
- The challenge for employers is not simply substance use itself, but identifying and managing impairment-related risk in the workplace.

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Carnide N, Lee H, Landsman V, et al. Cannabis use and workplace cannabis availability, perceptions and policies among Canadian workers: a comparison before and after the legalisation of non-medical cannabis. Occup Environ Med. 2022;79(12):824-830.

Drug test positivity in domestic Canadian trucking

7.68%

Post legalization positivity

Non-DOT Canadian testing

5.31 %

Pre-legalization

Where positivity becomes particularly relevant

~ 10 % post accident testing positivity

~ 40% reasonable cause testing positivity

0.4% alcohol positivity in non-regulated trucking

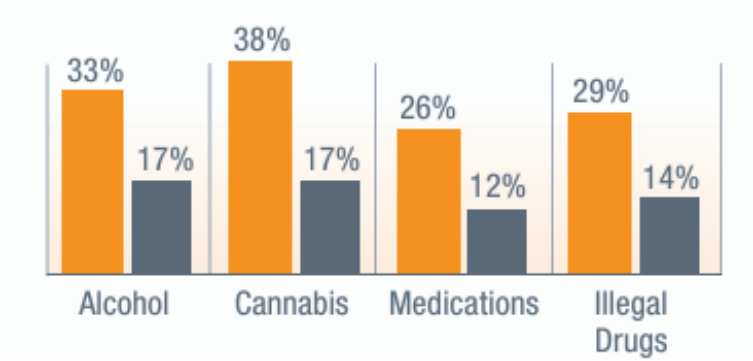
https://www.trucknews.com/health-safety/canada-sees-steady-trends-in-marijuana-positive-tests-among-truck-drivers-since-legalization/1003187827/

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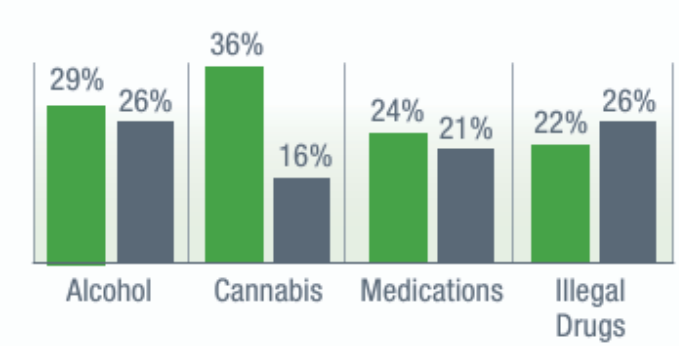
Substance use Risks Extends Beyond Cannabis

People working in SS positions were more likely to report thinking that substance use is an issue at their workplace, compared with those working in NSS positions.

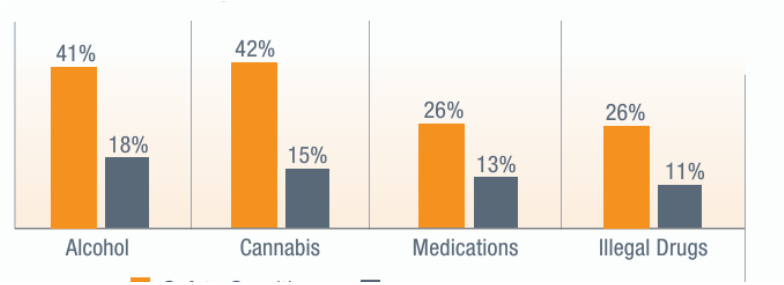
Oil & Gas



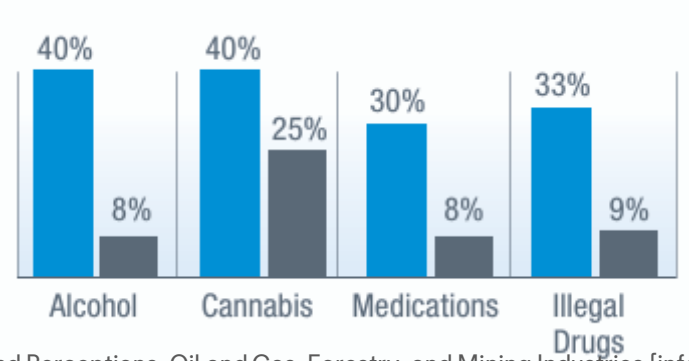
Forestry



Construction



Mining



Meister S, Barker B, Dassieu L, Wood S, Beirness D, Cragg S. Substance Use and the Workplace: Use and Perceptions, Oil and Gas, Forestry, and Mining Industries [infographic]. Ottawa, ON: Canadian Centre on Substance Use and Addiction; 2025. Accessed September 15, 2026. https://www.ccsa.ca/sites/default/files/2025-07/Workplaces-and-SU-Oil-and-Gas-Forestry-and-Mining-Industries-Use-and-Perceptions-en.pdf

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What is impairment?

Impairment is not always obvious



Physical

- Poor coordination
- Fatigue
- Slowed reflexes and reaction time



Cognitive

- Reduced attention span
- Poor decision making
- Memory struggle such as lapses



Emotional

- Irritability
- Anxiety
- Mood Swings

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Sample Types

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Sample Types

Postmortem Toxicology

- Blood
- Urine
- Vitreous Fluid
- Tissue (Liver, brain)
- Gastric Contents
- Hair/Nails

Human Performance

- Blood
- Urine
- Oral Fluid (Saliva)
- Hair

Forensic Drug Testing

- Urine
- Oral Fluid (Saliva)
- Hair
- Nails
- Sweat

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Common Matrices

For many years, urine was the only biological specimen used for drug testing and is **still the most widely adopted** and used routinely in;

- Workplace
- Pain Management Clinics / Compliance testing
- Criminal Justice

Oral fluid is increasingly important in all these areas of drug testing.

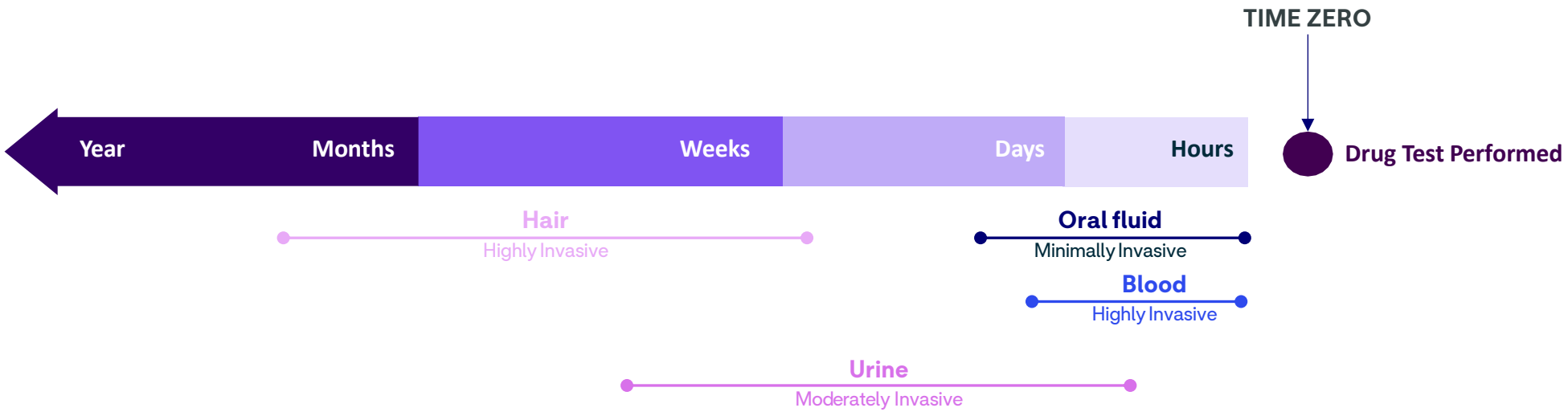
Oral fluid is extensively used for workplace drug testing.



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Toxicology Matrix Comparison

Detection Window comparison for different specimen types



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Windows of Detection

Dependent on:

- Amount of drug and frequency that the drug is taken.
- The nature of the drug itself.
- An individual's metabolism and general health.
- The amount of fluids ingested and exercise.
- Genetic variations that affect a response to drugs.

Drug Group	Detection Window in Urine	Detection Window in Oral Fluid
Cannabinoids (THC)	Single use: 3 days Daily use: 10-15 days	24+ hours
Cocaine	2-3 days	1-2 days
Opiates (general)	1-3 days	1-2 days
Morphine	1-3 days	24 hours
Codeine	1-2 days	1-2 days
Benzodiazepines	1-14 days	1-2 days
Amphetamine	1-3 days	1-2 days
Methamphetamine	1-3 days	24 hours
Buprenorphine	1-3+ days	1-2+ days
Methadone	1-2 days	1-2 days
PCP	2-30 days	1-2 days
Tramadol	3-5 days	1-2 days
Ketamine	3-5 days	1-2 days

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Sample Availability

Oral Fluid

- Saliva is produced by the three main salivary glands including:
  - Parotid | Submandibular | Sublingual
- The average person produces between 0.5 L-1.5 L of saliva per day.
- Sample volume collected varies from 0.5-1 mL.
- Production of saliva may vary due to smoking, drug use, climate and hydration and some drugs may cause dry mouth (also referred to as dry mouth syndrome).

Key Terminology

- **Saliva** is directly secreted from the salivary glands and is a clear viscous fluid.
- **Oral fluid** is a saliva with other constituents in the mouth (epithelial cells, bacteria, food residue).

Urine

- Urine is produced at an average rate of 1 mL/kg body weight per hour.
- Production of urine is dependent on hydration and diet and hence urine production may vary in individuals.
- Observed collection can result in shy bladder syndrome, where an individual is unable to urinate under observation.
- Sample volume collected varies from 30-90 mL depending upon collection cup used and the testing programme requirements.

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Urine vs Oral fluid

- Both can be used for the detection of illegal and prescription drugs
- The choice of sample type, **depends on the testing and program requirements**

Oral fluid

- Short window of detection provides recent use information.
- Detection of recent drug use makes it a suitable sample type for drug detection in a variety of settings including;
  - roadside testing (DUID)
  - for cause or post-accident testing
  - treatment monitoring
  - workplace
  - criminal justice

Urine

- Longer window of detection provides historical use information.
- Urine testing has been well regulated and commonly used in;
  - workplace settings
  - treatment monitoring
  - criminal justice settings

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Urine Considerations

Limitations

- Gender specific collection challenges if observed.
- Can be more subject to adulteration.
- Donor and collector user experience not ideal.
- Reliance on ability of donor to be able to provide sample (shy bladder).
- Environmental and accessibility.

Benefits

- Most commonly used matrix.
- Wide range of technologies and support resources available.
- Longer window of detection providing valuable historical use information.
- Wide selection of drug test panels.
- Scientifically reliable and legally defensible data.

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Oral Fluid Considerations

Limitations

- Low concentrations of drug present.
- Limited or unknown sample size in some devices.
- Low specimen volume may limit drug test panel.
- Window of exposure usually shorter than urine.

Benefits

- Observed collection; adulteration difficult.
- Simple, rapid, minimally- invasive collection.
- Parent drugs present in higher concentration than metabolites.
- Potentially shows recent ingestion.
- Ideal for post-accident or for cause testing.
- No special collection facilities required.
- Easier implementation of random testing.

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Workplace Drug Testing

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Public Health Impact of Substance Misuse in the Workplace

- Substance misuse affects both organizational health and individual health, creating risks that extend beyond the workplace and into families and communities.
- Workplace incidents related to substance misuse can have far-reaching consequences, disrupting teams, diverting resources, and affecting the safety and wellbeing of others.

Impact for employer



- Increased workplace injuries and safety incidents
- Greater burden on occupational health resources
- Responsibility to protect workforce health and wellbeing

Impact for employee

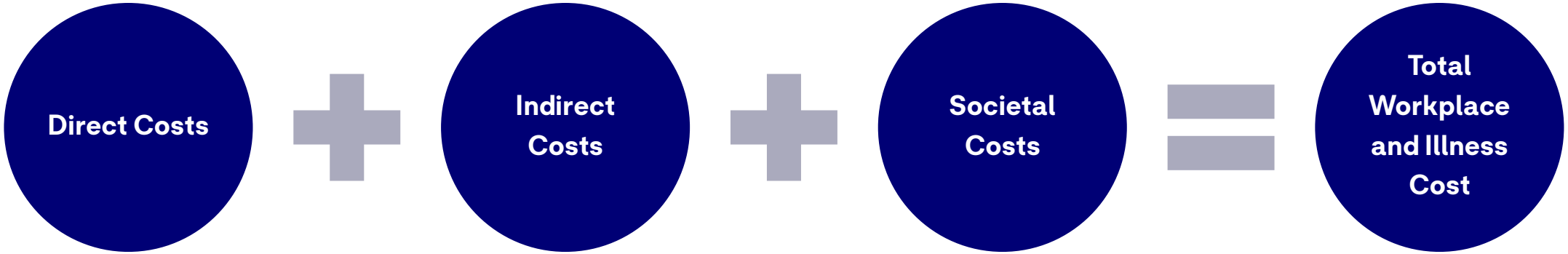


- Increased risk of injury and overdose
- Long-term physical and mental health consequences
- Reduced quality of life and wellbeing

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Impact of substance misuse in the workplace

Secondly there is the cost of workplace related injuries and illness that can be caused by substance misuse



- Medical Treatment
- Rehabilitation
- Workers Compensation
- Insurance Administration

- Lost Productivity
- Investigation of Incident
- Replacement Workers
- Legal and Compliance

- Long-Term Disability
- Reduced Economic Participation
- Impact on Families and Communities

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Benefits of a workplace testing program

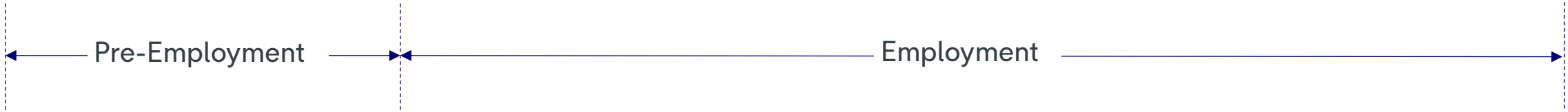
Drug and alcohol use can have a damaging effect in the workplace

Implementing a workplace drug testing program can;

- Promote a safe working
- Reduce accidents and injury at work
- Increase productivity
- Reduce absenteeism
- Deterrent effect
- Create a healthier place of work

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Types of programs



Pre-Employment

Preferred Sample type:
Urine

Provides insight into longer-term or historical substance use, helping assess **patterns of behaviour** in potential applicants.

Random

Preferred Sample type:
Oral Fluid

Supports detection of **recent** substance use, enabling effective monitoring of employees through random testing.

Post Incident

Preferred Sample type:
Oral Fluid

Provides rapid detection of recent substance use, supporting timely assessment of contribution of substance misuse to an incident.

Return to Work

Preferred Sample type:
Urine

Offers a broad detection window, supporting safe and informed decisions when an employee returns to work after an absence.

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Achieving Success with your Workplace Policy

- Set out a clear policy.
- Training and education of entire workforce.
- Employee involvement and engagement.
- Confidentiality.
- Treatment rather than retaliation.
- Compliance.
- Regular reviews to keep the policy up to date.



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Summary

- **Global and local drug use is continuing to increase** contributing to high youth exposure, rising arrests and a strong impact in roadside and workplace settings.
- Substance misuse has a **clear impact in workplace environments**, where safety and performance are most at risk.
- **Urine and oral fluid are the primary sample types used in workplace and roadside** drug-testing programs to enhance safety and minimise impairment-related incidents.
- Choosing a **sample type is guided by the testing application** and the results your program is designed to deliver.
- Importantly, workplace and road safety are closely linked, so programmes **must consider both, to effectively reduce impairment-related risk.**



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