

NCETA Workplace Drug and Alcohol Use Information and Data Series

Workplace Drug and Alcohol Testing

Ken Pidd, Ann Roche & Michael White

Drug and alcohol testing is increasingly popular as a way to manage perceived risk of workplace drug and alcohol use. Despite its popularity, workplace drug and alcohol testing is not without controversy.

There is debate regarding its effectiveness. There is limited evidence that drug testing can identify current intoxication (except for alcohol), modify worker behaviour, reduce the incidence workplace injury and death or that it is a cost effective method for managing risk.

However, as part of an integrated suite of responses to occupational health safety and worker wellbeing, testing may have a role in educating workers about the effects of drug and alcohol use and facilitating behaviour change.

Is drug and alcohol use in the workplace common?

The prevalence of workplace drug or alcohol use is relatively low in Australia. However, some industry and occupational groups have much higher levels of use compared to the general working population. Drinking at risky levels and drinking at work is more common than drug use. For most workplaces, alcohol is more likely to be a workplace safety issue than other drugs.

What is the impact on workplace safety?

Whilst research indicates an association between workers' drug and alcohol use and workplace accidents and injuries, the proportion of accidents and injuries related to drug or alcohol use is likely to be relatively small, but higher among younger workers, males, and certain industries and occupations.

This information sheet provides a brief overview of some of the main issues surrounding workplace testing. It examines the evidence for and against testing, and describes best practice in workplace testing programs.¹

Can workplace testing detect drug or alcohol related risk to workplace safety?

In general, testing can detect past drug and alcohol use. However, the extent to which past drug use is a risk to workplace safety is debatable. Most drug or alcohol related risk to safety is likely to be due to intoxication and/or impairment.

Apart from breath analysis, which can detect alcohol intoxication, no other workplace drug test can detect current intoxication or impairment.

Are there possible negative effects of drug testing?

Drug testing may mask the true extent of risk to workplace safety if employees try to avoid detection rather than change their behaviour. Employees may also be reluctant to report near misses and minor accidents or injuries for fear of a positive test.

Does workplace testing improve workplace safety?

Evidence is inconclusive regarding the efficacy of drug testing in reducing workplace accidents and injuries. While some studies suggest that testing can reduce injury and accident rates, more rigorous studies indicate testing has only a small effect or no effect at all. Claims that workplace testing can substantially reduce workplace injuries, accidents and compensation claims are not supported by the available research evidence.

¹ For a more detailed discussion see Pidd, K. & Roche, A. (2011). Workplace drug testing: Evidence and issues, National Centre for Education and Training on Addiction, Flinders University, Adelaide. www.nceta.flinders.edu.au

Does workplace testing deter employee drug use?

Evidence of the deterrent effect of workplace testing is also inconclusive. The few rigorous studies available indicate that workplace testing has either no effect, or only a very small deterrent effect.

What does drug testing entail?

Workplace drug testing is a method of identifying drug use that may affect workplace safety. It is a two-stage process that involves:

1. A point of collection test (POCT) – an on-site screen of a biological sample collected in the workplace
2. Laboratory analysis – confirmation of positive on-site screens in an appropriate testing laboratory.

1. POCT on-site screens

Advantages:

- usually less expensive than laboratory testing
- relatively easy to administer, little training required
- test result is generally available within minutes of the screen being conducted.

Disadvantages:

- less accurate and reliable than laboratory analysis
- the range of drugs that can be detected by a single test device is limited
- test result cannot distinguish between prescription/over-the-counter and illicit drugs
- test device does not allow for results to be kept for medical or legal reasons
- visual display markers vary widely and are subject to misinterpretation
- risk that poorly trained staff may be exposed to health and safety hazards, inappropriately conduct the test, or misinterpret results.

2. Laboratory analysis

Advantages:

- more reliable and accurate than on-site POCT screens
- can detect a wider range of drugs than POCT devices
- better able to distinguish between prescription/over-the-counter and illicit drugs than POCT devices
- can detect the adulteration or dilution of specimen samples
- results can be stored for future medical or legal access
- Lab staff have higher levels of expertise/training in conduct and interpretation of tests.

Disadvantages:

- generally more expensive than POCTs
- slower turnaround time for test results.

What types of workplace tests are used in Australia?

The three most commonly used workplace tests used are urinalysis, saliva testing, and breath analysis.

Urinalysis involves the employee producing a urine sample into a sterile tamper-proof container.

Advantages

- Inexpensive
- Fully developed methodology
- More reliable for detecting past use
- Fewer sample storage issues

Disadvantages

- Intrusive
- Wide window of detection for cannabis (days/wks)
- May not detect very recent use of some drugs
- Requires appropriate collection facilities
- Time consuming
- Donor may not be able to readily provide a specimen
- Dilution, adulteration, or substitution of urine easier compared to other methods

Saliva testing involves collection of a sample of saliva from inside the mouth using a swab or pipette.

Advantages

- Relatively un-intrusive
- Swab wipe only
- Narrow window of detection
- Can detect current/recent use
- Specimen available immediately
- Less opportunity for substitution, dilution, or adulteration

Disadvantages

- Can be difficult to collect sufficient quantities for confirmatory analysis
- Oral contamination can adulterate or dilute the sample
- Can be time consuming
- Donors need to be supervised for up to 30 mins prior to sample collection to minimise oral contamination
- Cannot detect intoxication or impairment
- Ability to reliably detect cannabis use questioned

Breath analysis involves the employee exhaling into a usually hand held breathalyzer.

Advantages

- Onsite test that can indicate alcohol intoxication/impairment
- Un-intrusive, breath sample only
- Window of detection is narrow and produces a result similar to blood

Disadvantages

- Only detects alcohol use
- Testing equipment relatively expensive, requires ongoing maintenance and calibration
- Cannot detect impairment due to "hangover effects" of heavy alcohol use
- Cannot store sample for confirmation

Is workplace testing cost effective?

There is very little research concerning the cost effectiveness of workplace testing. The available research provides little support for the cost effectiveness of drug testing as a workplace safety strategy.

What would a Best Practice workplace testing program look like?

Testing *may* have a limited role in improving workplace safety. However, for testing to have any impact, programs need to be based on 'best practice'. Best practice programs are based on principles of quality practice, and are accepted and endorsed by employees.

Best practice testing programs need to:

- be a justifiable
- be designed to address an identified risk
- adopt policies that are procedurally fair
- result in counselling, treatment, and rehabilitation rather than punitive outcomes
- target safety-sensitive rather than non-safety-sensitive work roles
- allow for employee input into the development and implementation of the program
- allow for a right of appeal
- adequately disseminate associated policy and procedures
- incorporate appropriate education and training.

What types of workplace testing programs are used?

Four different types of testing programs are used in the workplace. Each has positive and negative aspects.

Drug testing programs	Positives/Negatives
1. Pre-employment screening – the screening of all new or potential staff prior to their commencement in employment.	Considered most acceptable to employees and unions Easily evaded - only likely to detect uninformed or severely addicted applicants
2. Random testing – testing pre-determined proportion of the total workforce, conducted without notice with all employees being tested over time.	Considered to be procedurally fair Most contentious testing program, places the onus on employee to prove they are not a drug user May create industrial issues if non-safety sensitive work roles are tested at the same rate as those in safety sensitive roles
3. For-cause testing – screening individuals where there is evidence of or a reasonable suspicion of drug or alcohol use	Generally supported by employees and unions More cost effective than other forms of testing Potential for employee victimisation
4. Post-accident testing – screening of individuals where there has been an accident or near miss	Generally supported by employees and unions More cost effective than other forms of testing Can result in under-reporting of minor accidents and near misses

Can workplace testing detect drug or alcohol intoxication or level of impairment?

Apart from breath analysis, which can detect alcohol intoxication, no other workplace drug test can detect intoxication or impairment. Urinalysis is particularly problematic due to its inability to distinguish between recent and past cannabis use.

An ideal test accurately measures what it is supposed to measure. That is, an ideal test indicates drug use when drugs have been taken (a true positive) and shows no use of drugs when drugs have not been taken (a true negative). POCT on-site screens are likely to produce a much higher rate of false positives and false negatives than laboratory analysis. The risk of false positive on-site POCTs is reduced by subsequent confirmatory laboratory analysis, but false negatives are likely to go undetected.

What are false positives and false negatives?

There are four potential outcomes of any drug test:

1. A true positive (a drug is detected and is present)
2. A false positive (a drug is detected, but no drug is present)
3. A false negative (no drug is detected, but a drug is present)
4. A true negative (no drug is detected and no drug is present)

		Drug present?	
		YES	NO
Drug detected?	YES	True positives (1)	False positives (2)
	NO	False negatives (3)	True negatives (4)

What are the key components of a best practice workplace drug and alcohol testing program?

Testing must comply with Australian Standards

The main considerations under Australian Standards are:

- Collector/technician must be properly trained
- Training should be accredited
- Initial positive on-site test must be subjected to confirmatory testing at an accredited laboratory
- Cut off levels for on-site and lab tests must not be less than levels prescribed in the standards
- Testing to be conducted only after informed consent is given by the employee
- The Standard's chain of custody must be followed
- Provision made for a referee sample to be collected.

Establish a need for testing

- More likely to be accepted by workforce
- More likely to be accepted by potential job applicants
- Provides some protection from unfair dismissal claims.

Engage with employees

- Consult with the workforce prior to introducing any testing program
- Allow for mutually acceptable goals and procedures to be developed
- Increases acceptance and credibility of program
- Allow time for employees to consider the proposed testing program
- Ensure adequate question and answer sessions
- Place focus on rehabilitation/treatment with dismissal as a last resort.

Ensure adequate education and training

- Must be early and on-going
- Before testing is introduced and after implementation
- Ensures acceptance and compliance
- Provides a process for workers to be clear about the policy
- Content must include more than just the testing procedures and process. Include information and skills on: alcohol and drugs use in the workplace, risks, and strategies to minimise harms.

A drug testing program should be based on formal written policy and procedures:

- policy should be simple and easy to understand
- employees should be required to indicate acknowledgement and understanding of the policy
- employees should be reminded of the policy in a timely and regular manner
- the policy should be applied consistently and without discrimination.

Australian Standards relevant to workplace testing

- **AS 4760 – 2006** - Procedures for specimen collection and the detection and quantification of drugs in oral fluid
- **AS/NZS 4308 – 2001** - Procedures for the collection, detection and quantification of drugs of abuse in urine

Further Reading

- Pidd, K. & Roche, A. M. (2009). Prevention of alcohol-related harm in the workplace. *Prevention Research Quarterly*, 10, 1-9.
- Pidd, K. & Roche, A. (2009). Workplace drug testing: Why the controversy? *Of Substance*, 7(3), 18-19.
- Pidd, K. Shtangey, V. Roche A.M. (2008). Alcohol use in the Australian workforce: Prevalence, patterns, and implications. Findings from a secondary analysis of 2004 NDSHS data. NCETA, Flinders University, Adelaide, South Australia.
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- Pidd, K., Berry, J. G., Harrison, J. E., Roche, A. M., Driscoll, T. R., & Newson, R. S. (2006). Alcohol and work: Patterns of use, workplace culture and workplace safety. *Injury Research and Statistics Series Number 28 (AIHW cat. No. INJCAT 82)* Australian Institute of Health and Welfare.

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