



# Alcohol/Drug Abuse Screening Test

(The Impacts at the Workplace across India)

JITM Diagnostics

Addressing Alcohol/Drug Abuse in Your Business/Organization

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## About JITM Diagnostics

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**It is better to know why we at JITM Diagnostics always attentive.**

### **Mission**

JITM Diagnostics believes “**knowing your health is half the cure**”. We make it easy to do so with our dedication to provide superior quality diagnostic services. We bring together cutting-edge technology and un-paralleled experience under the JITM Skills’ banner. It is this expertise that physicians prefer for their patients, satisfied clients recommend to their family and friends, the employees are proud of and investors seek for long-term returns.

### **Primary Value**

Providing quality diagnostic services are our passion; improving the quality of lives is our reward.

### **Value Statement**

These values, which guide JITM Diagnostic's mission to this day, are an expression of the vision and intent of our founders **Prof. Yogesh Kumar**, and **Mr. Manav Chauhan**.

### **Technology Enhancement**

We use state-of-the-art technology and provide superior quality diagnostic services.

### **Transparency**

We believe in providing the best services at cost effective prices.

### **Empathy**

We provide the best diagnostics services delivered with sensitivity and compassion.

### **Helpline Number**

1800 – 120 – 38 – 38 - 38

## What makes JITM Diagnostics different from other Diagnostic Centers?

*Providing quality diagnostics services is our passion, improving the quality of lives is our reward. Here are a few pointers that separate us from the crowd.*

- ***New age Diagnostics:*** At JITM Diagnostics, we incorporate contemporary best practices in radiology & pathology and augment this effort with exemplary hospitality, quality and consistency in our services. *With taking tests regularly made easier, you will now have relevant information at your disposal, helping you to know how your body is functioning.*
- ***Radiology & Pathology:*** We provide both radiology and pathology services which is convenient for the customer at a one stop for all diagnostics needs.
- ***New Age Reporting:*** A click of a button and our customers get detailed reporting analysis of their past and present to formulate a detailed health graphical comparison report for their entire test. The result is a report that offers the clearest picture of health. Because we believe knowing is the difference between our world and a healthier one.
- ***Exceptional Turn Around Time:*** Majority of the reports are available within a few hours. We understand the importance of fast delivery of health reports and we deliver just that.
- ***Home Sample Collection:*** On receiving a request through our website, or call center a JITM Diagnostics' trained technicians arrives at the doorstep of the patient to collect samples. Home collection is completely free of cost and reports can be send to your phone via sms/email or can be collected at any of our centers.
- ***Ambiance & Empathy:*** All are centers provides an atmosphere of ambiance and empathy unlike any other diagnostics center to make the patients feel secure, safe and a healthy environment.
- ***R&D Department:*** We believe in providing better health for all. In our pursuit to do this, we keep adapting to the times. With this intention, we have an in-house R&D department who innovate products that improve the diagnostics precision for the common healthcare dilemmas.
- ***Social Media:*** We use social media platforms such as FB/ Twitter/ LinkedIn/ Blogs enabling us to reach out to more and more customers and vice versa.

## Workplace Health across India – an analysis by JITM Diagnostics

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### 1. Introduction

Today, workplaces large and small are looking at creating healthy, safe and productive environments for their employees. Healthy workplaces are physical and social environments that support individual and organizational health.

When health is promoted in the workplace:

- Employers can look forward to (1) *less absenteeism*, (2) *lower turnover rates*, (3) *increased productivity*, and (4) *job satisfaction*.
- Employees will experience (1) *improved health*, (2) *reduced work-related stress and illness*, and (3) *an improved balance between their work and family obligations*.

As per the experiences gained by JITM Diagnostics, employers should view *addressing problematic substance use* as a component of workplace health, rather than from a disciplinary perspective (when possible).

JITM Diagnostics' traditional workplace health program has focused on *helping individuals at workplace to make positive changes in lifestyle, behaviors, and include initiatives that focus on risk factors* such as *tobacco use, physical inactivity, unhealthy eating and stress*.

### 2. Problematic Substance Use (*such as Use of Alcohol/Drug*) at Workplace across India

There is a problem at many workplaces across India that nobody wants to look at. Everybody knows that it exists, that it is big, and that it is dangerous. We generally cover our eyes and pretend that it is not there. The bad news is that it is not going anywhere. As a matter of fact, it is growing at maximum workplaces across India.

Problematic substance use and addiction may occur with a *range of legal and illegal substances*. As per the experiences gained by JITM Diagnostics, the following table describes some substances which may be used problematically or in an addictive manner across India.

Category	Examples
Cannabis	Marijuana, Hashish
Depressants	Alcohol, Sleeping Medications, Sedatives, Tranquilizers
Hallucinogens	LSD (Acid), PCP, Mushrooms
Inhalants	Solvents, Gasoline
Nicotine	Cigarettes, Chewing Tobacco, Snuff
Opiates	Morphine, Codeine, Heroin, Oxycodone, Valium, Oxycontin, Percocet
Stimulants	Cocaine, Ritalin, Amphetamines (e.g., Speed), Methamphetamine, Ecstasy, Crystal Meth

### 3. Why is Problematic Substance Use an Issue for the Workplace across India?

The physical and social environment of the workplace across India contains important factors which may contribute to substance use problems (such as *use of alcohol/drug*) such as:

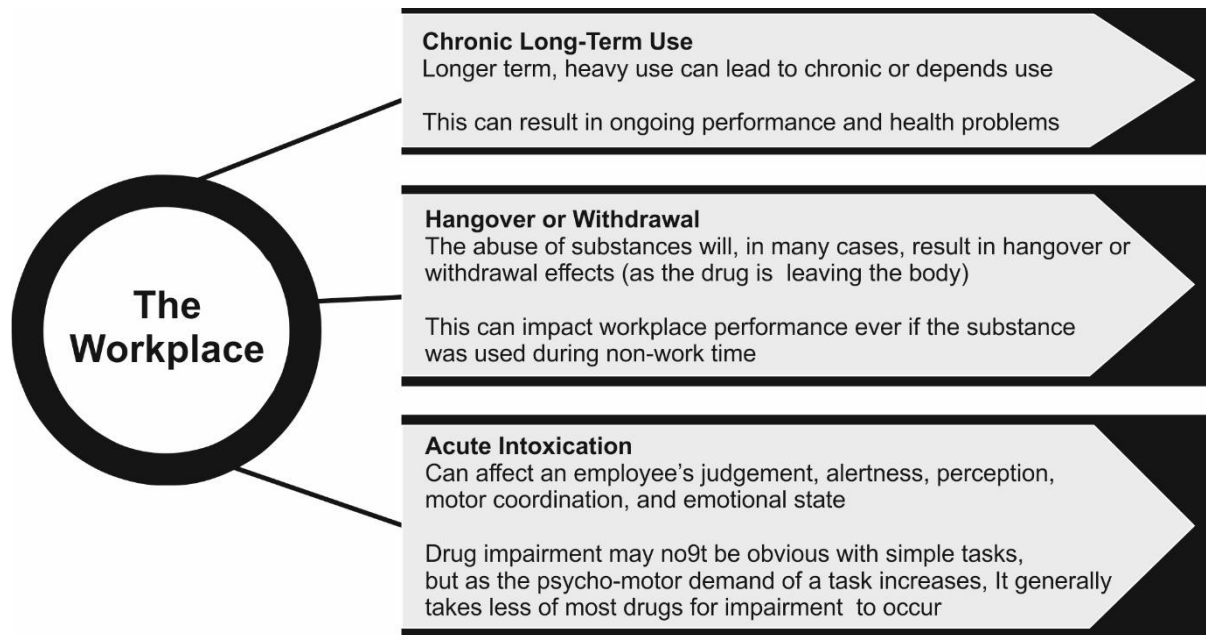
1. High demand and/or low control conditions;
2. Repetitive, and/or boring tasks;
3. Lack of supervision;
4. Lack of opportunity for promotion; *and*
5. Physical availability of drugs and alcohol on and/or nearby the workplaces across India.

JITM Diagnostics found that employees may engage in substance use (such as *use of alcohol/drug*) in the workplace environment because:

1. They want to feel socially connected and/or build social solidarity among co-workers (for example, *alcohol in work socials, use of alcohol in work-related achievements/celebrations, et cetera*);
2. It serves as a source of recreation and/or connectedness with co-workers, helping them 'unwind' after work;
3. It helps them work longer hours/meet greater demands; *and*
4. It helps to meet expectations of senior workplace supervisors/managers.

JITM Diagnostics believes that the alcohol and other drug use can impact any workplace in several ways. Few are mentioned as follows.

1. Acute intoxication by a psychoactive substance can affect a worker's *judgment, alertness, perception, coordination, and emotional state*;
2. Drug impairment may not be obvious with simple tasks, but as the psycho-motor demand of a task increases, it generally takes less of most drugs for impairment to occur;
3. The abuse of substances will, in many cases, result in *hangover* or *withdrawal* effects (as the drug is leaving the body) that can impact workplace performance even if the substance was used during non-work time; *and/or*
4. Longer-term, heavy use can lead to *chronic* or *dependent* use which results in ongoing performance and health problems.



**4. JITM Diagnostics through its various experiences found following Signs & Symptoms of Problematic Substance Use (Such as *Use of Alcohol/Drug*) at different Workplaces across India**

	<b>Indicators</b>
<b>Physicals</b>	<ol style="list-style-type: none"> <li>1. Deterioration in appearance and/or personal hygiene;</li> <li>2. Unexplained bruises;</li> <li>3. Sweating;</li> <li>4. Complaints of headaches;</li> <li>5. Tremors;</li> <li>6. Diarrhea and vomiting;</li> <li>7. Restlessness;</li> <li>8. Frequent use of breath mints/gum or mouthwash;</li> <li>9. Odor of alcohol on breath; <i>and</i></li> <li>10. Slurred speech.</li> </ol>
<b>Psychosocial Impacts</b>	<ol style="list-style-type: none"> <li>1. Family disharmony (how the colleagues speaks of family members);</li> <li>2. Mood fluctuations (e.g., swinging from being extremely fatigued to 'perkiness' in a short period of time);</li> <li>3. Inappropriate verbal or emotional response;</li> <li>4. Irritability;</li> <li>5. Confusion or memory lapses;</li> <li>6. Inappropriate responses/behaviors;</li> <li>7. Isolation from colleagues;</li> <li>8. Lack of focus/concentration and forgetfulness; <i>and</i></li> <li>9. Lying and/or providing implausible excuses for behavior.</li> </ol>

<b>Workplace Performance &amp; Professional Image</b>	<ol style="list-style-type: none"> <li>1. Calling in sick frequently (may work overtime);</li> <li>2. Moving to a position where there is less visibility or supervision;</li> <li>3. Arriving late for work, leaving early;</li> <li>4. Extended breaks; sometimes without telling colleagues they are leaving</li> <li>5. Forgetfulness;</li> <li>6. Errors in judgment;</li> <li>7. Deterioration in performance;</li> <li>8. Excessive number of incidents/mistakes;</li> <li>9. Non-compliance with policies;</li> <li>10. Doing enough work to just 'get by';</li> <li>11. Sloppy, illegible or incorrect work (e.g., writing, reports, etc.); <i>and</i></li> <li>12. Changes in work quality.</li> </ol>
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**5. JITM Diagnostics through its various experiences found following Visible Signs of using Problematic Substance (Such as *Use of Alcohol/Drug*) at various Workplace across India**

	<b>Visible Signs at Workplace</b>
<b>Early Phase</b>	<p><i>Job Performance</i></p> <ol style="list-style-type: none"> <li>1. Makes more mistakes</li> <li>2. Misses deadlines</li> </ol> <p><i>Attendance</i></p> <ol style="list-style-type: none"> <li>1. Late or absent</li> </ol> <p><i>General Behavior</i></p> <ol style="list-style-type: none"> <li>1. Co-workers complain</li> <li>2. Overreacts to criticism</li> <li>3. Complains about being ill</li> <li>4. Lies</li> </ol>
<b>Middle Phase</b>	<p><i>Job Performance</i></p> <ol style="list-style-type: none"> <li>1. Spasmodic work pace</li> <li>2. Difficulty concentrating</li> </ol> <p><i>Attendance</i></p> <ol style="list-style-type: none"> <li>1. More days off for vague reasons</li> </ol> <p><i>General behavior</i></p> <ol style="list-style-type: none"> <li>1. Undependable</li> <li>2. Avoids associates</li> <li>3. Borrows money</li> <li>4. Exaggerates</li> <li>5. Unreasonable resentments</li> </ol>
<b>Late Middle Phase</b>	<p><i>Job Performance</i></p> <ol style="list-style-type: none"> <li>1. Far below expectations</li> </ol> <p><i>Attendance</i></p> <ol style="list-style-type: none"> <li>1. Frequent time off</li> <li>2. Doesn't return after lunch</li> </ol> <p><i>General Behavior</i></p>

	<ol style="list-style-type: none"> <li>1. Aggressive, belligerent</li> <li>2. Domestic problems interfere</li> <li>3. Loss of ethical values</li> <li>4. Won't talk about the problem</li> </ol>
<b>Late Phase</b>	<p><i>Job Performance</i></p> <ol style="list-style-type: none"> <li>1. Formal discipline</li> <li>2. No improvement</li> </ol> <p><i>Attendance</i></p> <ol style="list-style-type: none"> <li>1. Prolonged unpredictable absences</li> </ol> <p><i>General Behavior</i></p> <ol style="list-style-type: none"> <li>2. Use on the job</li> <li>3. Physical deterioration</li> </ol>

**6. Why every Employers Should Address Problematic Substance Use at their Workplaces – Experiences shared by JITM Diagnostics**

	<b>Description</b>	<b>Impact</b>
<b>Employee Health</b>	<ol style="list-style-type: none"> <li>1. Those with problems with substance use tend to neglect their nutrition, sleep and other health needs.</li> <li>2. Substance use also depresses the immune system.</li> </ol>	<ol style="list-style-type: none"> <li>1. Higher health benefit usage</li> <li>2. Increased use of sick time</li> <li>3. More absenteeism and tardiness</li> </ol>
<b>Safety</b>	Common effects of substance use are (1) impaired vision, (2) impaired hearing, (3) short attention span, (4) reduced alertness and mental acuity.	<ol style="list-style-type: none"> <li>1. More accidents</li> <li>2. Workers' compensation claims</li> <li>3. Increased workplace aggression/violence</li> </ol>
<b>Productivity</b>	<ol style="list-style-type: none"> <li>1. Those with problems with substance use can be physically and mentally impaired on the job.</li> <li>2. Substance use interferes with job satisfaction and motivation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduced output</li> <li>2. Increased errors</li> <li>3. Lower quality</li> <li>4. Reduced customer/client satisfaction</li> </ol>
<b>Decision Making</b>	Those with problems with substance use often make poor decisions and have a distorted perception of their ability.	<ol style="list-style-type: none"> <li>1. Reduced innovation</li> <li>2. Reduced creativity</li> <li>3. Reduced competitiveness</li> <li>4. Poor daily and strategic decisions</li> </ol>
<b>Morale</b>	<ol style="list-style-type: none"> <li>1. The presence of an employee with problems with substance use places a strain on the relationships between co-workers.</li> <li>2. Workplaces that appear to condone drug use create the image that the workplace does not care.</li> </ol>	<ol style="list-style-type: none"> <li>1. Higher turnover</li> <li>2. Diminished quality</li> <li>3. Reduced team effort</li> </ol>



<b>Security</b>	Those with problems with substance use often have financial difficulties and may be engaged in illegal activities.	<ol style="list-style-type: none"> <li>1. Theft</li> <li>2. Law enforcement involvement</li> </ol>
<b>Workplace Image &amp; Community Relations</b>	Accidents, lawsuits and other incidents may receive media attention.	<ol style="list-style-type: none"> <li>1. Reduced trust and confidence</li> <li>2. Reduced ability to attract high quality employees</li> <li>3. Decreased business/financial well-being</li> </ol>

### **7. What is Problematic Substance Use Costing at Workplace?**

Problematic substance use carries economic, societal and health costs. Many of these costs are borne by employers. Problematic substance use does not discriminate; it can affect workplaces small and large alike. Problematic substance use costs your workplace through increased:

1. Absenteeism
2. Sick leave
3. Disability claims
4. Benefit costs
5. Insurance claims
6. Overtime pay for other staff having to carry extra workload
7. Workers' compensation claims
8. Costs associated with replacing damaged equipment
9. Litigation

It is important to note that all the above impact workplace, regardless of whether alcohol or other drugs are used in a problematic manner on or off the job.

### **8. Return on Investment**

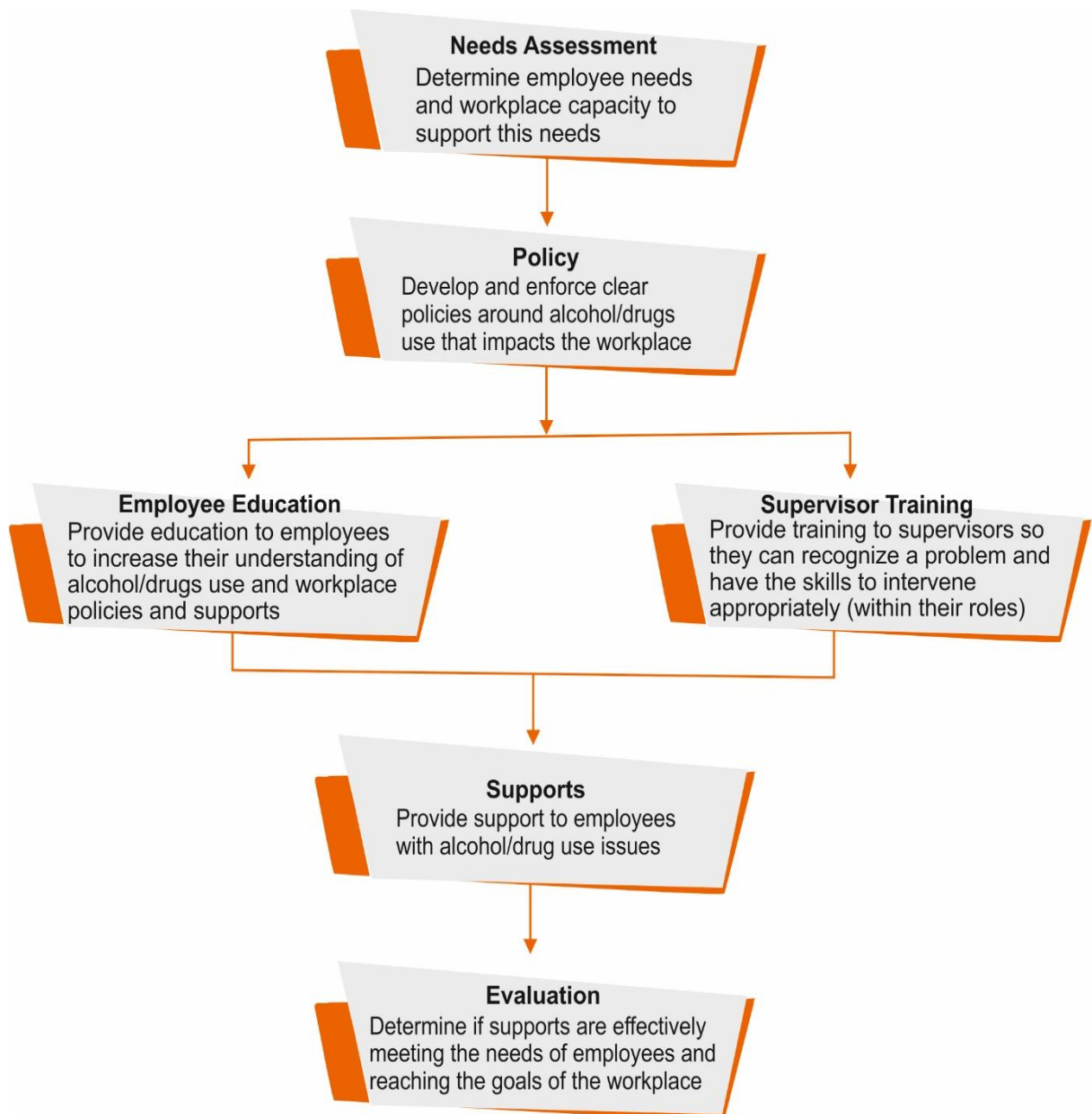
Problematic substance use and addiction treatment is cost effective and achieves sharp reductions in workplace related problems including absenteeism and productivity. While reviewing the costs of setting up a program by JITM Diagnostics to address problematic substance use that impacts the workplace, employers should consider the benefits of investing in a program versus the costs of failing to take action.

## JITM Diagnostics can Guide to Workplaces Addressing Problematic Substance Use

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JITM Diagnostics understand the negative impacts of problematic substance use (such as use of alcohol/drug). JITM Diagnostics is a highly experienced company to provide a step-by-step solution to address problematic substance use that impacts the workplace in negative sense.

Employers can take the following steps to prevent and address problematic substance use, and to promote a healthy and safe work environment at their workplace.



## **Step 1: Needs Assessment**

JITM Diagnostics will start with a *needs assessment* for a workplace to answer these *four* key questions:

**Question1:** What is the impact of problematic substance use on that particular workplace?

For example, (1) *are employees in safety or security sensitive positions;* (2) *do employees performing functions such as client relations or financials;* (3) *what are the statistics on turnover, absenteeism, and productivity, et cetera?*

**Question2:** Is this a problem/concern at that particular workplace?

For example, (1) *what is the workplace culture around problematic substance use;* (2) *what do people think of those who have substance use problems;* (3) *how supportive is the workplace towards employees' work-life balance, et cetera?*

**Question3:** Are workplace prepared if they have a problem?

For example, (1) *do you have a drug/alcohol policy;* (2) *do supervisors and employees know what to do if a colleague reveals a substance use problem, et cetera?*

**Question4:** What resources are available for persons with substance use problems at that particular workplace?

For example, (1) *what supports are available for employees;* (2) *what are the costs;* (3) *what is available in the community, et cetera?*

JITM Diagnostics conduct a needs assessment through a (1) *questionnaire;* (2) *meeting;* or (3) *focus group* with diverse workplace representation across India.

## **Step 2: Policy**

The purpose of drug and alcohol policies is to (1) *demonstrate risk management;* (2) *provide guidance to employees and managers;* (3) *establish good workplace relations;* and (4) *protect employers from disputes.* Developing a policy can be a daunting task; however, **JITM Diagnostics has huge experiences in doing it and can help any workplace across India to develop a comprehensive policy that meets unique workplace needs.**

### **Step 3: Educating Employees**

Employee education is a critical step in workplaces addressing problematic substance use (such as use of alcohol/drug). **JITM Diagnostics can include following area(s) to focus educational efforts:**

- Prevention of problematic substance use such as use of alcohol/drug;
- General information on problematic substance use such as use of alcohol/drug;
- The impact of problematic substance use such as use of alcohol/drug on safety, health, personal life and work performance;
- Details of the problematic substance use such as use of alcohol/drug policy; *and*
- How to report a co-worker who is showing warning signs or obvious indicators of problematic substance use such as use of alcohol/drug.

### **Step 4: Supervisor Training**

Supervisors are a key element of addressing problematic substance use *such as use of alcohol/drug* that impacts various workplaces across India as they are generally responsible for implementing many elements of drug/alcohol policies, and programs. **JITM Diagnostics has huge experiences in providing training to Supervisors on:**

- The workplace's policy, and how to explain the policy to employees;
- Legally sensitive areas, for example, *confidentiality of employees*, et cetera;
- Recognizing signs and symptoms of potential problematic substance use;
- Handling drug or alcohol crisis situations;
- Acting in the event that problematic substance use is detected; *and*
- Reintegrating employee back to work.

JITM Diagnostics will (1) *educate supervisors on their role in addressing problematic substance use*; (2) *teach supervisors how to respond to a substance use crisis*; and (3) *develop and implement an incident report*.

### **Step 5: Supports**

The most effective way to address problematic substance use (such as *use of alcohol/drug*) that impacts the workplace is through a comprehensive program/approach by JITM Diagnostics which includes:

- *Health Promotion & Prevention*: Problematic substance use (such as *use of alcohol/drug*) can be integrated into existing workplace health strategies.
- *Identification*: Staff and supervisors will be educated to recognize the signs and symptoms of problematic substance use (such as *use of alcohol/drug*), which will result in increased early identification of problems.

### **Step 6: Evaluation**

The final step by JITM Diagnostics to addressing problematic substance use (such as *use of alcohol/drug*) that impacts the workplace is evaluation. Evaluation process by JITM Diagnostics is important to provide information on:

- The effectiveness of the program/support provided;
- The successes of the program/support;
- The challenges, areas of improvement or modifications required; *and*
- The justification for continuation of the program/support.

## Scope of Work with JITM Diagnostics

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### 1. Overview

Various workplaces across India allow JITM Diagnostics to examine the relevance of drug-testing in terms of (1) *assessing competencies/skills*, (2) *safety*, and (3) *how these impacts on those tested*. Examining different workplaces also allows exploration of related issues including (1) *alternatives to drug-testing*, and (2) *the circumstances in which drug-testing may be useful*.

Drug testing in the workplace is gradually increasing in popularity in India. USA is the leader in workplace drug-testing countries, with 88% of USA employers either testing already or with plans to test in the near future.

Many of the industries in India demand a high-level of competency in a number of areas that can be affected by substance use: (1) *quick reaction time*, (2) *good hazard perception*, (3) *the ability to use logic and reasoning in problem solving*, (4) *low levels of absenteeism*, (5) *the ability to communicate effectively*, and (6) *proficient cognitive, psychomotor and perceptual skills*.

There are a number of situations and procedures for drug-testing in the workplace. JITM Diagnostics offers the following testing options: (1) *pre-employment*, (2) *discretionary random testing (test at any time for any/no reason)*, (3) *systematic random testing (employees are selected at random to be tested)*, (4) *reasonable cause testing (when employer is suspicious)*, (5) *periodic testing (usually in connection with an annual physical examination)*, and (6) *post-accident (after an industrial accident)*.

At present, there is no “gold standard” of workplace drug-testing, as the types of testing vary widely depending on the industry and/or the individual’s circumstances.

Drugs that may be tested can vary according to the purpose of testing. Substances for which testing can occur include (1) *alcohol*, (2) *prescription drugs* (especially *benzodiazepines* and *anti-depressants*) which have abuse potential, (3) *cannabis*, (4) *cocaine*, (5) *amphetamines*, and (6) *heroin*.

The main arguments by JITM Diagnostics justifying workplace drug-testing relate to *three* general concerns: (1) *safety*, (2) *organizational efficiency (absenteeism, turnover, performance, productivity)* and *employee health and welfare*. The strongest argument (and perhaps the most frequently used) is for safety. Safety may be defined as employees not posing a danger to themselves, colleagues and third parties, or more broadly understood as posing a threat to the

business and potentially losing revenue for the organization, for example by making poor business decisions.

Alternative methods to drug-testing in the workplace: JITM Diagnostics also offers alternative methods to drug-testing, such as: (1) *employee assistance programs* (designed to help employees with their drug/alcohol problems), (2) *training supervisors to recognize performance problems*, (3) *educating employees* (to be aware of the company policy on drugs/alcohol and how use could affect performance), and (4) *performance testing* (testing reaction times).

## **2. Alcohol/Drug Abuse Screening Test Program by JITM Diagnostics**

JITM Diagnostics propose alcohol/drug abuse screening test program for employees at work place. It will perform the following services on an as needed basis:

- 1. Initial employee set-up;**
- 2. On-site BAT (Breath Alcohol Test) with EBT and urine drug screens;**
- 3. Mobile Drug Specimen Collection and Analysis;**
- 4. On-site set up;**
- 5. Clinic Drug Specimen Collection's Analysis;**
- 6. Record Management (Drug and Alcohol);**
- 7. 24 Hour Telephone consultations through helpline number 1800-120-38-38-38;**
- 8. Emergency or On-call In-Workplace Service;**
- 9. Training for supervisors;**
- 10. Tuberculin test; and/or**
- 11. Annual physical examination.**

## **3. Availability of Report(s) and Training by JITM Diagnostics**

JITM Diagnostics will provide required reports as requested and maintain all records involving the administration of the alcohol / drug abuse screening test program. It will provide test results as follows:

1. Alcohol results in **24 hours**; *and*
2. Drug abuse screening test result in **72 hours**.

Positive drug/alcohol results will be reported immediately by phone to the concern authority of workplace.

JITM Diagnostics will provide training for supervisors at workplaces as follows:

1. HR staff training focused on alcohol/drug use, abuse and dependence.
2. Identifying staff under the influence of alcohol/drug in the workplace, training on reasonable suspicion to recognize signs and behaviors associated with alcohol and drug use and abuse.
3. Training to recognize the physical, behavioral, speech and performance indicators of probable misuse and use of controlled substances.

#### **4. JITM Diagnostics offers Multi-Panel Drug Testing across India**

JITM Diagnostics offers drug panels in a variety of customizable drug testing classes for use in employer drug testing. The panel number corresponds to the number of drugs tested. For example, a 6-panel drug test looks for six different classes of drugs. Additionally, one client's 6-panel drug test could be COMPLETELY different from another client's 6-panel test.

The same logic applies for 4-panel, 7-panel, or 10-panel drug tests. Employers ensure their employee screening process and drug testing approach match their employee screening policies. These policies often dictate the group or panel of substances for testing.

For example, one 4-panel test could screen for THC, Opiates, Cocaine, & PCP, while another 4-panel might test for Methadone, Benzodiazepines, Oxycodone, & Ecstasy. The important similarity is that both examples test four substances.

A number of factors influence the number of panels tested, including profession, state laws, or even corporate culture.

While no regulations define drug groupings for specific numbered panel tests, certain best practices outline groupings of drugs for each panel.

##### **4.1 Substances in Drug Testing**

In some cases, corporate culture influences the choice of drugs screened in its 4-panel test. Generally, when comparing a 4-panel and 5-panel drug test, the 4-panel tends to eliminate *marijuana* as a tested substance. As marijuana legislation and certain cultures change, employers may choose to customize their panel accordingly. Other variations of 4-panel screens may instead screen for *marijuana*, *cocaine*, *opiates*, and *methamphetamine*.



## 4.2 Panels

- **6-panel Drug Test:** Typically tests for Amphetamines/Methamphetamines, Barbiturates, Cocaine Metabolites, Marijuana Metabolites: Tetrahydrocannabinol (THC), Opiates (including Hydrocodone, Hydromorphone, Codeine, and Morphine) and Phencyclidine (PCP)
- **7-panel Drug Test:** Generally administered by companies or individuals concerned an employee might be abusing prescription drugs. Industries requiring alertness or the operation of heavy machinery, such as transportation and the DOT, may use the 7-panel test to gauge the presence of prescription drugs. These drugs, although legal, may impair a machine operator's ability to do their job, or cause fatiguing side effects, particularly if abused.
- **Standard 7-panel Test:** Typically looks for Marijuana, Cocaine, Opiates, PCP, Amphetamines, Benzodiazepines, and Barbiturates.
- **10-panel Test:** Generally administered to test employees in law enforcement and occupational medicine. Additionally, these 10-panel drug screens may examine if a person is violating the terms of probation.
- **Standard 10-panel Test:** Generally looks for Cocaine, Marijuana, PCP, Amphetamines, Opiates, Benzodiazepines, Barbiturates, Methadone, Propoxyphene, and Quaaludes.
- **12-panel Test:** Generally administered as an extension to the 10-panel test. The 12-panel test looks for either the presence of extended opiates and prescription painkillers or traces of other controlled substances if that poses a dangerous threat to the workplace.
- **Standard 12-panel Test:** Looks for Cocaine, Marijuana, PCP, Amphetamines, Opiates, Benzodiazepines, Barbiturates, Methadone, Propoxyphene, Quaaludes, Ecstasy/MDA, & Oxycodone/Percoset.

### 4.3 Quality Control

JITM Diagnostics believes and recommends the daily use of control materials to validate the reliability of device. Control materials should be assayed as clinical specimen and challenging to the assay cutoff concentration, for example, 25% above and below cutoff concentration. If control values do not fall within establish range, assay results are invalid.

The drugs of abuse test provide a built-in process control with a different antigen/antibody reaction at the control region. This control line should always appear regardless the presence of drug or metabolite. If the control line does not appear, the test device should be discarded and the obtained result is invalid. The presence of this control band in the control region serves as (1) *verification that sufficient volume is added*, and (2) *that proper flow is obtained*.

## Drug-Testing Modes used by JITM Diagnostics at Workplaces across India

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### 1. Overview

The most widely used modes of drug-testing by JITM Diagnostics are via (1) *urine*, (2) *blood*, (3) *hair*, and (4) *saliva*, involving either onsite (work place) screening or laboratory testing. Terms such as urinalysis (or urine testing) and hair testing simply describe the “*methods used to determine if any given drug or its metabolites are present in a sample*”. Levels of substances exceeding a national standard cut-off mark are considered ‘*positive*’; however, it should be noted that “*the determination of drug use through biological analysis is never absolute*” and numerous factors may influence the result, especially as negative results cannot rule out drug use.

Results may be affected by several factors associated with the person tested (i.e. *metabolism*), the drug used (i.e. *route of administration*), the sample taken (i.e. *window of detection*), the collection procedure (i.e. *testing schedule*) and the analytical procedure.

Consequently, there are *four* possible results of a drug-test which must be considered: (i) a *true-positive result*, where a test correctly identifies the presence of a drug; (ii) a *false-positive result*, when a drug is detected by a test when, in fact, that drug is not present in the sample; (iii) a *true-negative result*, where a test correctly identifies the absence of a drug; and (iv) a *false-negative result*, when no drug is detected by a test when, in fact, a drug is present in the sample.

There is also information associated with drug use that cannot be determined by biological analysis, such as *quantity of drug used* (i.e. *dose administered*), *frequency of use*, and *the extent of physical or psychological dependency*.

### 2. Urine testing or urinalysis by JITM Diagnostics

**Process:** The person being tested should provide a minimum of 60 ml of urine and be observed, or if not observed, the specimen jar should use a heat strip. This heat strip technology allows checking that the temperature of the sample is within the expected range of 33°-38°C (body temperature), which assists in detecting if a sample has been substituted.

Urine testing by JITM Diagnostics may be conducted onsite (work place) using screening devices; however, positive test results will be sent to an accredited laboratory for confirmation and/or quantification (testing amount of drug in urine), using different analysis techniques such as *gas chromatography* (GC) or *mass spectroscopy* (MS).

**Advantage:** The advantages of this method used by JITM Diagnostics include the availability of accredited laboratories with facilities and expertise in India, the relative ease of acquiring a sufficient amount of urine (to make confirmation testing or sample retesting simple), parent drugs and/or metabolites occur in higher concentrations than other types of biological samples (making laboratory analysis a simpler process than other mediums), and good on-site test kits are available (making screening a relatively quick process).

**Price range:** Costs of onsite (work place) urine tests vary between rupees 400-1000 for one drug, to between rupees 1000-2500 for multiple tests (5-7 drugs). The costs for laboratory urinalysis range from approximately rupees 800 to rupees 2000.

### **3. Hair testing by JITM Diagnostics**

**Process:** Hair grows an average of approximately one centimeter per month. Drugs may enter hair in one of three ways: (1) via cells within the hair follicle, (2) via blood and body secretions (e.g. sweat), or (3) via external environmental sources.

JITM Diagnostics use the process as “*cutting a small quantity of hair as close as possible to the scalp with scissors and placing the sample in a standardized, secure collection envelope*”. The sample need be no thicker than a matchstick, (10 – 20 mgs) and is not cosmetically noticeable.

Hair samples can be clumped into various lengths, since the length of the hair corresponds to the length of the previous time period during which drug use may have occurred. That is, the segment of hair closest to the scalp reflects more recent drug use.

As such, different length hairs can be clumped together to test for possible drug use within the previous 1 to 6 months. The analysis system used in urine testing is also used in hair testing.

The sampling procedure is standardized and prepared collection kits are usually used to maintain the sample integrity (i.e. to keep the hair together in one tight, intact bundle and labeled).

**Advantages:** The main advantage of hair analysis is a longer window of drug detection compared with blood, saliva or urine, as the drug and metabolites are kept in a stable manner and are not excreted. Other advantages include the ability to observe an individual’s changes in drug use over time, including a retrospective analysis, a relatively non-invasive collection process, the ease of storing and shipping specimens, very low risk for disease transmission in the handling of samples and the general ease of obtaining sufficient hair for confirmation testing or re-analysis.

**Price range:** Costs of laboratory hair testing is approximately rupees 3000 to screen *five* classes of drugs (e.g. (1) opioids, (2) amphetamine, (3) cannabis/THC, (4) cocaine, and (5)

benzodiazepines), with confirmation testing costing an additional rupees 1500 per drug class (i.e. (1) opioids and (2) cocaine confirmation in hair would be  $2 \times 1500 =$  rupees 3000). With increased volume of samples, the financial costs would decrease. Screening of hair for the five classes would suffice for most cases.

#### **4. Blood testing by JITM Diagnostics**

**Process:** Most blood tests are taken from a vein, usually from those in the fore-arm. Blood is drawn back by either a plunger or low pressure blood test bottle.

**Advantages:** Blood testing may be considered the best indicator of intoxication and impairment as it can determine the amount of a drug in the blood at a specific point in time and, therefore, may be most useful in determining use relating to a specific episode or event (i.e. *incident of abuse*). Blood tests are very reliable as there is no chance of adulteration of the sample.

**Price range:** A screen for five drug classes costs approximately rupees 3000, with confirmation testing costing an additional rupees 3000 per drug class.

#### **5. Saliva testing by JITM Diagnostics**

**Process:** Donors are required to provide a sample by placing an absorbent collector in the mouth, or touching it on their tongue. Donors are not allowed to eat, drink, brush teeth or floss before providing a sample.

**Advantages:** The major advantages of saliva testing include: (1) the easy collection process, (2) being less invasive and less objectionable than urine or blood testing, (3) little training is required in the collection and handling of saliva when using a commercial saliva collection device, (4) the drug is usually present in higher concentrations compared to urine (generally allowing more confident drug identification), and (5) saliva is useful when information is required only about recent use. Adulteration may be possible by drinking, rinsing or adding substances to the mouth.

**Price range:** On-site testing devices range widely in prices; however, tests may be purchased for rupees 3000 to rupees 4000 to screen three to four drug classes. Laboratory screening (five drug classes) costs rupees 3000.