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Suzanne -

This should be
replaced in the Chairman's
file on Drug Abuse -

DPC.

Thanks -

Orline



Office of the Director

UNITED STATES
OFFICE OF PERSONNEL MANAGEMENT
WASHINGTON, D.C. 20415

July 18, 1986

MEMORANDUM FOR: EDWIN MEESE III
ATTORNEY GENERAL

FROM: CONSTANCE HORNER
DIRECTOR *Constance Horner*

SUBJECT: OPM DISCUSSION PAPER
ON SUBSTANCE DRUG POLICY

A General Approach to Policy

The operating principle in a new Federal substance abuse policy has been well articulated in the Organized Crime Commission's report. Policies should be framed that express the "utter unacceptability" of illegal drug use in the Federal workplace.

The principle of "utter unacceptability" can be operationalized a variety of ways beyond "suitable" testing for certain types of high-risk jobs: rehabilitation, education, illegal drug use prevention programs, employee assistance programs, public relations, revised security and suitability inquiries and the invocation of adverse action procedures for illegal drug users.

Any Federal substance abuse policy must be grounded in the distinction between Federal applicants and Federal employees. In pursuing a goal of a safe, healthful, drug-free workplace, we should seek to prevent the entry of users of illegal narcotics into the Federal workforce while simultaneously continuing a rehabilitational program for on-board employees. But, if on-board employees who use drugs illegally, test "positive" a second time, resist rehabilitation, or otherwise undermine the efficiency of the service, adverse action should be invoked, including dismissal.

There are no uniform, Governmentwide policies and standards encompassing various measures, such as drug testing, to exclude drug abusers from the Federal workplace. There is no systematic and uniform program of screening applicants for certain types of jobs Governmentwide, nor for testing employees in those areas. There is a Governmentwide policy geared toward rehabilitating drug and alcohol abusers once they are found in the workplace.

The following specific proposals are tentative, submitted for deliberation and further discussion and appropriate refinement. They are an attempt to provide a program of narcotics prevention, in consonance with the "utter unacceptability" criteria, as well as a program of rehabilitation.

Suggested OPM Proposals

Recommendation No. 1: Propose Legislative changes to make current illegal drug use an absolute disqualifier for entry into Federal employment and a basis for termination, regardless of a claimed "handicapping" condition or effect on job performance. First, add a new section to Title V: "Notwithstanding any other provision of law, an individual who uses illegal narcotics or drugs without a prescription may not be employed in the competitive service." Second, amend the Rehabilitation Act to exclude illegal drug users as a category to be included among those who are deemed to be "handicapped" and strike the nexus between job performance and illegal drug usage.

Rationale: The President's Commission proposes the issuance of policy guidance that would communicate the "utter unacceptability" of illegal drug use in the workplace. At the same time, Federal law forbids the deprivation of Federal employment to any person solely on the grounds of prior drug abuse. The object of current law is rehabilitative. While the rehabilitative spirit of current law is laudable, the public has a right to expect not only the highest level of performance and productivity on the part of Federal applicants, but also their devotion to the laws of the country.

While there is no requirement to hire current drug abusers, and they are normally excluded under OPM "suitability" criteria, such applicants and employees can claim to be handicapped and come under the protective language of the Rehabilitation Act. It then becomes the taxpayers' duty to accommodate a disabling condition brought on by an illegal personal vice. The Federal government is forbidden to discriminate against the handicapped in hiring.

OPM should seek the removal of the "handicapped" protection from illegal drug users because such use is, after all, illegal and, moreover, it is a voluntary act. Those who persistently and voluntarily engage in illegal acts should not be permitted to enter or remain in the Federal workforce. They should be permitted re-entry only after demonstrated rehabilitation. Because of the legal status of alcohol consumption, the traditional nexus between alcoholism or alcohol abuse and performance criteria and its designation as a "handicapping condition" would be retained.

Section 7352 of Title V declares: "An individual who habitually uses intoxicating beverages to excess may not be employed in the competitive service." The same bar to employment should be imposed on drug abuse, with a clarification that current illegal drug use will not be considered a "handicapping condition" nor an absolute bar to future

Federal employment. The enactment of such provisions will send a strong, clear message to the general public that drug abuse and Federal employment are incompatible.

Recommendation No.2: Inquire into Applicants' Past and Current Illicit Drug Usage on the SF-85 and SF-86, the Standard Suitability and Security Forms, as a means of deterring the hiring of current illegal drug users and providing appropriate information regarding past use for evaluation for security clearance.

*probably requires
a change in
Law*

Rationale: Just as with the habitual or excessive use of alcohol, the illegal use of narcotics, drugs or other controlled substances is potentially disqualifying for Federal employment under 5 CFR 731.202(b)(6). Despite the fact that illegal drug use is a major national problem, costing approximately \$100 billion in lost productivity each year, OPM currently does not even require a written response about the use of illicit narcotics among Federal applicants. As a first step in the prevention of the use of illicit narcotics in the Federal workplace, OPM should inquire into past, recent and current drug use or alcohol abuse on the part of applicants for Federal positions, on the SF-85 and the SF-86, i.e., forms for both sensitive and non-sensitive positions.

The questions can serve several purposes for Federal investigators and examiners in determining general fitness or access to classified

information. First, the Executive publicly charged with the faithful execution of the laws is entitled to services of those who privately obey the laws, including the Controlled Substances Act. A Federal position is one of public trust, not private right. This principle applies to both sensitive and non-sensitive jobs. Second, the inquiries are narrowly focused to elicit recency and frequency of illegal narcotics usage. The questions are designed to segregate current from more recent drug abusers, and, in turn, from those who, in the past, have enjoyed only a casual experimentation with illicit drugs. Such focused questions will also be of direct benefit to agency adjudicators making final employment decisions by giving them more detailed information on illicit drug use on a case-by-case basis. Third, with such narrowly focused questions, eliciting recency and frequency, OPM can expect to get a higher rate of positive responses. This can broaden the base for further inquiry. If the questions are answered affirmatively, they may be disqualifying. (It is not necessarily disqualifying.) It is a matter left to adjudication. If it is answered falsely and the applicant is hired under false pretences, it is grounds for dismissal. In that respect, the initial inquiry can serve as a front line deterrent to illegal drug using applicants. It can be first step toward prevention.

wt
171
SF-85-?
SF-86-?

17?

240

In OPM's draft revision of its SF-86 (Personnel Investigations Questionnaire for Sensitive Positions), the following questions are proposed:

Security Form

SF-86

Your Involvement with Alcohol and Dangerous
or Illegal Drugs, Including Marijuana

This item concerns the abuse of alcoholic beverages and the supplying or using without a prescription of marijuana, hashish, narcotics (opium, morphine, codeine, heroin, etc.), stimulants (cocaine, amphetamines, etc.), depressants (barbiturates, methaqualone, tranquilizers, etc.), or other dangerous or illegal drugs.

A. Have you ever used alcoholic beverages habitually and to excess?

_____ Yes _____ No.

B. Have you ever used marijuana, narcotics, hallucinogens, or other dangerous or illegal drugs?

_____ Yes _____ No.

C. Have you ever been a supplier or seller of marijuana, narcotics, hallucinogens, or other dangerous or illegal drugs?

_____ Yes _____ No.

D. Are you currently (within the last 3 months) using alcohol in excess or using illegal drugs?

_____ Yes _____ No.

If you answered yes to any of Questions A - D above, provide details including the periods of use and treatment, if any.

		Explanation (in your comments be sure to include a statement of the frequency of your use and efforts toward rehabilita- tion, if any, including the name, address, and zip code, of person or institution providing treatment	
From	To	Type of substance	
<u>mo/yr</u>	<u>mo/yr</u>	<u>used</u>	<u>providing treatment</u>

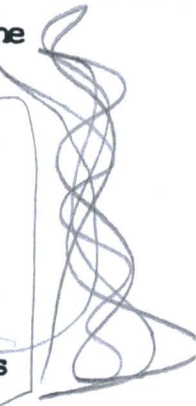
Because the questions are directed at applicants rather than employees, there is no perceived "negative" implication for the Federal workforce nor even a suggestion of widespread drug usage on the part of the workforce. It may be strongly supported by Federal employee organizations. It is likely to gain widespread support in Congress, particularly among members who serve on committees having jurisdiction over illegal narcotics.

Recommendation No. 3: Issue Federal Personnel Manual Guidance on the use of Drug Screening

*Created
5/25/72*

selective

Rationale: Certain agencies are already adopting or considering the use of drug tests as a condition for the receipt of clearances for critical or sensitive jobs. OPM can and should set forth some guidelines for the use of drug tests for personnel security reasons. Governmentwide guidance should continue to allow agency-head discretion and should indicate that national security, law enforcement, and health and safety-related positions would be likely candidates for drug testing before and during employment. The provision of security clearances is another case for serious consideration of testing, including those with access to classified information or classified facilities or materials, especially nuclear facilities and materials. In this case, guidance would remove security-related testing from the arena of labor negotiability.



- Recommend the use of corroborative, alternative tests in any case where an employee tests "positive" and establish minimal

reliability and quality control standards to enhance the protection of employees subject to any such tests. The main idea here is to prevent the use of any "positive" reading of a test for drugs or alcohol disqualification without strong confirmation. OPM's staffing experts have already developed language to ensure such confirmatory standards; including separate urinalysis or blood testing by a reputable laboratory; clinical examination by a physician; or admission by the individual. The language can later be issued as binding regulations.

Recommendation No. 4: Change Adverse Action Regulations to Mandate Termination for a Second Instance of Illegal Drug Use.

Rational: The proposal here is to specify at the conclusion of a one-time "opportunity period" for general rehabilitation, that a first instance of illegal drug use is grounds for referral to rehabilitation or confidential counseling. The second instance of illegal drug use, or being under the influence of an illegal narcotic at the Federal worksite, is to result in a mandatory dismissal from the Federal civil service. The exception to this rule would be, of course, the Agency Head's legal discretion to terminate on the basis of national security in the case of a single instance of illegal drug use. The General Rule: "Two strikes and you're out."

Recommendation No. 5: Proclaim an opportunity period for the rehabilitation of on-board employees who are using illegal drugs.

referral?

The Director, OPM, would issue a governmentwide "Employee Letter" outlining the Administration's policy of "zero tolerance" for the illegal use of drugs by Federal employees. The letter would contain an appeal to any employee who is an illegal drug user to seek help during a period of six months from the date of the letter's issuance.

The letter would:

1. Re-emphasize the role and value of employee assistance programs and their availability.

2. Make an appeal to all of those who need confidential counseling to seek it.

3. State that during the six month period, there would be no change in Federal personnel policy, but that at the end of that six months changes in policy would be expected, with a view toward mandating termination of any employees who use illegal drugs.

4. Announce:

(a) A Drug Hotline: The establishment of an OPM Drug/Alcohol "Help Hotline" for Federal employees who have a problem and need confidential professional help. The "Hotline" can be part of the governmentwide OPM Employee Assistance Program.

(b) Drug Education: A continuing Drug and Alcohol Awareness Program; the use of several hard-hitting film strips, educational materials to explain the costs and consequences of drug and alcohol abuse to Federal employees.

Recommendation No. 6: Initiate Immediate Discussion between OPM and OMB and the White House on the Feasibility of Upgraded or Increased Coverage for Alcohol and Drug Related Medical Programs in the Federal Employees Health Benefits.

Rationale: During the 1981 FEHB crisis, when OPM ordered across-the-board benefit reductions, medical benefits covering alcohol and drug abuse were included in those reductions. OPM, as a matter of policy, has nevertheless regularly pressed for the inclusion of alcohol and drug-related medical coverage as part of an overall FEHB benefit package. It has paid dividends. A national study of 3000 persons treated for alcoholism among FEHB enrollees in the Aetna plan, conducted

by NIAAA, found that over a three-year time frame (1980-83) there was a net savings to the program; and the savings increased with time. ("Alcohol and Drugs in the Workplace," BNA Special Report, 1985).

In conjunction with other near-term measures, OPM may want to encourage upgraded coverage for drug and alcohol-related medical problems during this year's negotiation with carriers, consistent with market conditions and the need for a balanced benefits package for Federal employees.

Recommendation No. 7: OPM Should Upgrade and Re-emphasize the Availability of Governmentwide Employee Assistance Programs.

Rationale: In the near term, OPM can perform a valuable service in upgrading and re-emphasizing the role of Employee Assistance Programs as part of any comprehensive Administration anti-drug effort. This can be done through the issuance of a new FPM guidance; a Governmentwide "employee letter" from the Director of OPM, to advise employees of agencies' confidential counseling services, could also be issued. Any employee having such problems can obtain confidential help and return to productive work. A renewed effort on the "rehabilitative" role of OPM to curtail illegal drug use and alcohol abuse would pay bountiful dividends both psychologically and materially.

In the private sector, employee assistance programs have proven to be a valuable resource in combatting illegal drug use, and they are growing.

Approximately 30 percent of the Fortune 500 firms have established EAP's. Their purpose is to get rid of the problem, not the employee. This is a positive, constructive and humane way to deal with "on-the-job" drug and alcohol abusers. Beyond that, EAP's are cost-effective. It is less costly to retain an otherwise good and well-trained employee through an "employee assistance program," than to incur again the initial cost of hiring and training a new employee. Moreover, an effective EAP program will reduce absenteeism, and early referrals to EAP's can have a positive impact on health insurance premiums.

Recommendation No. 8: OPM and the White House Should Initiate an Aggressive Public Relations Campaign Focusing on the Incompatibility of Illicit Drug Use and Federal Employment.

Rationale: A public relations campaign focused on the incompatibility of illicit drug use and application for Federal employment could be very effective. OPM could explore incorporating such a campaign into a broad-based recruiting program. The theme can be simple and direct: "If you are using drugs, get off drugs and get help before you join us." Peer pressure, especially among the young, is a contributing factor in illicit drug use. Making it clear that one's future employment is contingent upon conformity to the law creates an effective counter to peer pressure. An effective public relations campaign conducted by OPM, in cooperation with HHS or the White House, could very well serve the

President in communicating to the public "the utter unacceptability" of drug use in the Federal workplace. Such an effort would also contribute to the cultural delegitimization of illicit drug use.

Recommendation No. 9: OPM Should Issue Regulations Requiring Referral of a Drug or Alcohol Disqualified Applicant for Counseling and Rehabilitation before Reconsideration of the Applicant.

Rationale: Under Section 3301 of Title V, the President has the plenary authority to proscribe rules and regulations for entry into the Civil Service.

OPM can require agency referral of a drug or alcohol disqualified applicant for counseling and rehabilitation and allow, after an appropriate period of time, reapplication to the Federal service only after written certification from a reputable rehabilitation service that the applicant has been successfully rehabilitated. This can be done at no cost to the government.

Recommendation No. 10:

OPM Should Initiate the Collection of Governmentwide "productivity" Data Correlated with a Qualitative and Quantitative Evaluation of the Effectiveness of Agency Employee Assistance Programs.

Rationale: Though there is no evidence of widespread illegal drug usage in the Federal workforce, available evidence does suggest that the

Federal workplace is not free of problems of alcohol addiction that affect the general society. What is needed is a strong data base to give us some idea of how well we are doing in the war against substance abuse. This data could include indices such as accidents on the job, absenteeism (particularly on Mondays) and sick leave usage. Much of the data is already collected in agencies, but the relationship of the data to alcohol or drug related problems is unclear.

Recommendation No. 11: In Consultation with HHS, OPM Should Issue
Regulations Setting Forth Quality Control Standards Governing the use
of any Biological Testing of Federal Employees.



Rationale: Drug testing has been a growing practice in private industry for the past two and one half years and it is growing among government agencies. Technology is evolving, but the most common method is urinalysis. Chemical reactions can reveal the presence of various narcotics or drugs, including cocaine, barbituates, amphetamines, marijuana, qualudes, PCP, and alcohol.

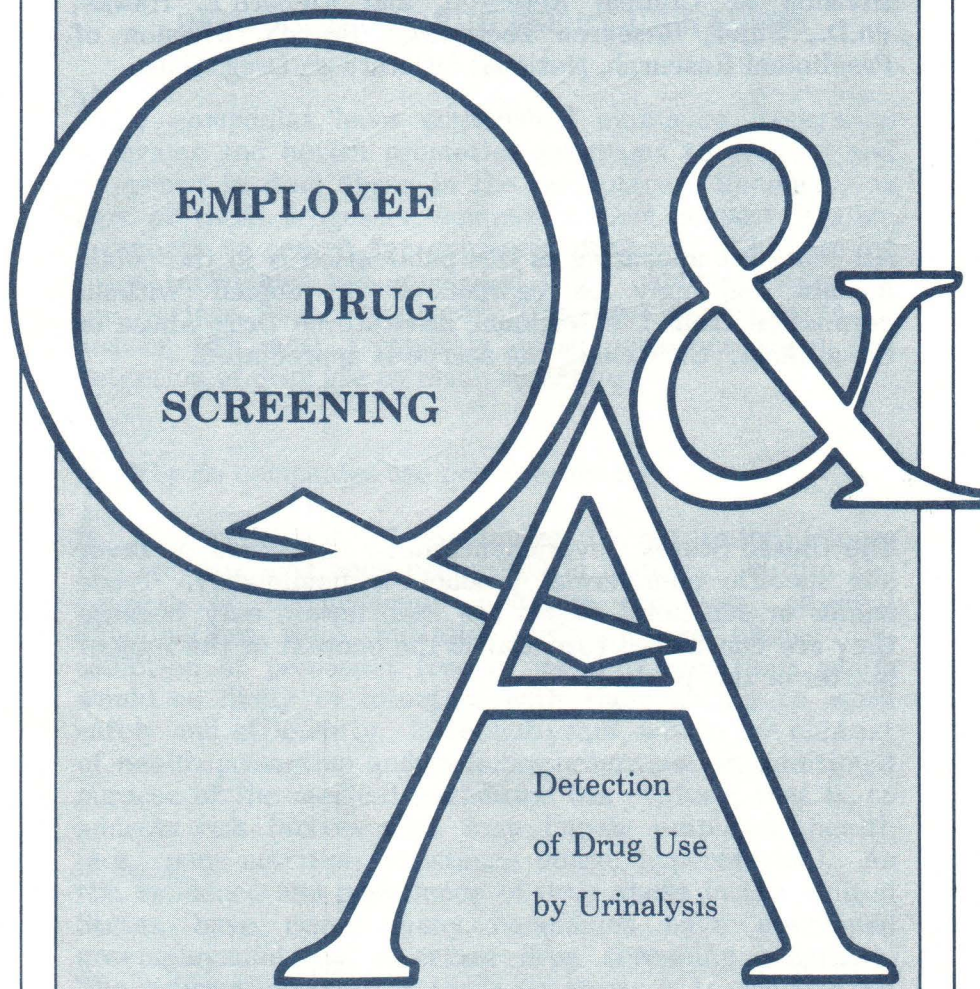
The major impact of the Civil Service Reform Act was the decentralization of the Federal management system. The determination as to whether such testing is appropriate and as to what class of employees should be subjected to testing should remain with the agency head.

Agencies, thus far, have been prudent in their approach to drug testing. They have identified categories of critical or sensitive jobs where

testing is appropriate in order to safeguard the safety and security of the public. They have tended to focus on the nature of a position, its performance requirements or the mission of the agency. Few can quarrel with testing for such occupations as Air Traffic Controllers, Firefighters, Pilots, Law Enforcement Officers, Health and Safety Inspectors, and employees at nuclear facilities.

However, every employee who is subject to a test of this sort has the right to the highest degree of accuracy that is humanly possible. Even in the best programs, there is the possibility of error. OPM should set forth regulations, after consultation with the Department of Health and Human Services and the National Institute for Drug Abuse, to ensure high standards for "positive" tests, the confirmation of "positive" results, standards for claim of custody of test specimens, and a high degree of quality control in the testing process.

National Institute on Drug Abuse



Detection
of Drug Use
by Urinalysis

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Alcohol, Drug Abuse, and Mental Health Administration

This leaflet was written by J. Michael Walsh, Ph.D., Chief, Clinical and Behavioral Pharmacology Branch, Division of Clinical Research, and Richard L. Hawks, Ph.D., Chief, Research Technology Branch, Division of Preclinical Research, National Institute on Drug Abuse.

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EMPLOYEE DRUG SCREENING

DETECTION OF DRUG USE BY URINALYSIS

Many companies have established employee assistance programs and health promotion programs to prevent and intervene in drug abuse in the workplace. Recently, as part of these programs, companies have begun to utilize urinalysis to screen for employee drug use. The use of these techniques has generated many inquiries regarding the various issues involved. This booklet attempts to answer the most frequently asked questions about the detection of drug use by urine screening.

Q. Why do companies use urine screening?

A. The evaluation of employees to determine fitness for duty has long been performed in industry. Within the context of occupational medicine programs, physical examinations were initially performed to ensure the selection of personnel free of medical conditions which would be likely to interfere with their ability to work safely and efficiently. In recent years, within the context of health promotion and wellness programs, an additional purpose of the medical evaluation has evolved; that is, to address risk factors that may impair employee health (e.g., poor nutrition, substance abuse, hypertension). As the incidence and prevalence of drug abuse in the United States have risen, many companies have developed preemployment and inservice drug screening programs. The primary purpose of these programs is to protect the health and safety of all employees through the early identification and referral for treatment of employees with drug- and alcohol-abuse problems. The integration of drug screening with programs of treatment, prevention,

and drug education is proving to be an effective way of managing substance-abuse problems in industry.

Q. How many companies are using preemployment screening?

A. Preemployment screening for drug use is being used widely by industry to screen job applicants. Recent reports indicate that in the last 3 years the number of Fortune 500 companies screening employees for drug use has risen from 3 percent to nearly 30 percent. Urinalysis is now being used as part of the preemployment screening process by many of the Nation's largest employers, including major corporations, manufacturers, public utilities, and transportation, and even by small businesses. In general, these companies use a blanket policy that they will not hire individuals who present positive urines indicating current use of illicit substances. However, many of these companies also counsel applicants who fail the drug screen to seek treatment and to reapply.

Q. Is urine screening for drugs legal?

A. At the present time no Federal or State constitutional provision or law directly prohibits the use of drug detection or urine screening programs. Issues of civil rights, discrimination, etc., argue strongly for a well-thought-out policy which carefully considers the need for unbiased, accurate, and legally defensible screening for the job in question. In general, employers should use common sense procedures to minimize legal challenge, i.e., develop reasonable policies, inform management, union, and employees of drug policies and the consequences of policy violations, and ensure that employees are aware that drug testing is part of their job requirements.

Q. How often should employees be screened?

A. Company policy regarding the frequency of drug screening is usually determined with consideration of risk factors associated with safety, security, and health. Over the last 2 years, a continuum of drug screening policies has evolved, ranging from postaccident evaluation to random, unannounced testing. The least intrusive is an incident-driven policy wherein screening occurs only after an accident or "incident" (e.g., a fight) or other "probable cause" event. High-risk or safety-sensitive occupations where public safety is of special concern may require routine scheduled screening. In these cases, screening is often tied to evaluation of fitness for duty or to annual physical examinations. In extremely hazardous and high-risk occupations, periodic unannounced or random testing to assure the health and safety of employees may be warranted.

Q. What about individual rights, privacy, and confidentiality?

A. How best to deal with the problems associated with employee drug use is a complex issue. Principles of public safety, efficient performance, and optimal productivity must be balanced against individuals' reasonable expectations of privacy and confidentiality. Job situations where there is a substantial risk to the public safety will surely justify greater permissible intrusions than would be acceptable where risks to the employee or community are perceived as minimal. On the one hand, an employer has the right to demand a drug-free workplace; on the other, an employee has reasonable rights to privacy and confidentiality. Since substance abuse is a diagnosable and treatable illness, policies and procedures should be written to ensure the confidentiality of employee medical records, as in any other medical or health-related condition. Urinalysis test results, which could be part of such a diagnosis, should be treated with the same confidentiality.

Q. Who should set up a drug screening program? How does one develop a policy?

A. The first priority should be to establish whether there is a need for a screening program. Is drug use present and significant? Can a drug use deterrent be established by means other than urine screening? The decision of whether or not to establish a drug-testing program will also depend to a large extent on the work setting. The initial question that management should consider is, "What is the purpose for testing?" The key concerns must be for the health and safety of all employees (i.e., early identification and referral for treatment) and to assure that any drug detection or screening procedure would be carried out with reasonable regard for the personal privacy and dignity of the worker.

The second critical question to consider is, "What will you do when employees are identified as drug users?" Once these issues are clarified, drafting a policy should be relatively easy.

Q. What level of drug in the urine indicates an individual is impaired?

A. Although urine screening technology is extremely effective in determining previous drug use, the positive results of a urine screen cannot be used to prove intoxication or impaired performance. Inert drug metabolites may appear in urine for several days, even weeks (depending upon the drug), without related impairment. However, positive urine screens do provide evidence of prior drug use.

Q. How reliable are urinalysis methods?

A. A variety of methods are available to laboratories for drug screening through urinalysis. Most of these are suitable for determining the presence or absence of a drug

in a urine sample. Accuracy and reliability of these methods must be assessed in the context of the total laboratory system. If the laboratory uses well-trained and certified personnel who follow acceptable procedures, then the accuracy of the results should be very high. Laboratories should maintain good quality control procedures, follow manufacturer's protocols, and perform a confirmation assay on all positives by a different chemical method from that used for the initial screening.

Equally important are the procedures that are followed to document how and by whom the sample is handled from the time it is taken from the individual, through the laboratory, until the final assay result is tabulated. This record is referred to as the "chain of custody" for the sample.

Q. What does laboratory quality assurance mean?

A. Quality assurance procedures are documented programs which the laboratory follows to ensure the highest possible reliability by controlling the way samples for analysis are handled and instruments are checked to be sure they are functioning correctly, and by minimizing human error. It involves the analysis of standard samples and blank samples along with the unknown samples to ensure that the total laboratory system is producing the expected results. These known samples are referred to as quality control samples.

Q. Many reports have appeared in the news media about legal cases in which experts have questioned the validity of a urine assay result. Does this indicate that the assay methods are not sufficiently reliable for broad application?

A. There is little controversy among experts in those cases where appropriate methods were used, good laboratory procedures were followed in the context of a

good quality assurance program, and adequately trained personnel carried out the analysis and interpretation.

Q. What are the primary methods being used for urine screening?

A. Two of the most widely used methods are the EMIT System, distributed by SYVA Co., and the ABUSCREEN System, distributed by Roche Diagnostics, Inc. These are both based on immunoassay techniques. Information on these assays can be obtained by contacting the companies at the following addresses:

SYVA Company
900 Arastradero Rd.
Palo Alto, CA 94304
(415) 493-2200

Roche Diagnostics, Inc.
340 Kingland St.
Nutley, NJ 07110
(201) 235-6500

Q. What are "confirmation assays"?

A. If an initial screening assay shows a sample as being positive, a second assay should be employed to confirm the initial result. Two different assays operating on different chemical principles having both given a positive result greatly decreases the possibility that a "cross reacting" substance or a methodological problem could have created the positive.

A confirmation assay usually is made by a method which is more specific (or selective) than a screening assay. Examples of commonly used confirmation methods include gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), and high performance liquid chromatography (HPLC). These are sophisticated

instrumental methods requiring highly trained technicians to operate them. They are capable of providing highly selective assays for a variety of drugs. Such assays cost more than the screening methods, but they provide a greater margin of certainty when used in concert with the screening assay.

Q. What is the preferred method for confirmation of presumptive positives from initial urine screens?

A. Gas chromatography coupled with mass spectrometry (GC/MS) is the preferred method for confirmation of a positive urine screening test, although other methods such as GC or HPLC can provide acceptable results.

Q. What do assay "sensitivity" and assay "cutoff" mean?

A. The ability of any assay to detect low levels of drugs has an inherent limit. The concentration of drug in the urine sample below which the assay can no longer be considered reliable is the "sensitivity" limit. The "cutoff" point is the concentration limit that will actually be used to assay samples. Any sample which assays below this level is considered a negative. Manufacturers of commercial urine screening systems set cutoff limits to their assays well above the sensitivity limits of the assay to minimize the possibility of a sample which is truly negative giving a (false) positive result.

For example, although the immunoassay screens such as the EMIT and ABUSCREEN for detection of marijuana use are sufficiently sensitive to detect drug metabolites at levels below 20 ng/ml, the assays are usually used at cutoff levels of 50 or 100 ng/ml. This not only decreases the possibility of a false positive resulting from operating the assay too close to its level of sensitivity, but also significantly decreases the possibility of a positive test resulting from passive inhalation.

Q. How can false positive results occur?

A. It is theoretically possible for substances other than the drug in question to give a positive result in a screening assay. This is sometimes referred to as "cross reactivity." However, most substances which could possibly cause such cross reaction have been evaluated by the companies that developed the tests and found not to interfere. These companies can supply brochures for all their drug screens which detail the extent to which other drugs or substances cross react with the assay. Generally the screening assays available today are highly selective if they are properly used.

False positive results can also occur due to human error. This is directly dependent on the experience of the laboratory personnel conducting the test and on the laboratory quality control procedures and confirmation procedures any good laboratory imposes to catch such errors.

Q. How can false positives be eliminated?

A. Probably the two most important reasons for the occurrence of false positives are poor quality assurance (QA) procedures in the laboratory and the absence of an appropriate confirmation assay to confirm presumptive positives arising from an initial screening procedure.

A good laboratory will impose a stringent and well-documented QA system and will also use a well-validated confirmation assay for all samples that test positive in a first screen.

Q. How frequently do false positives occur?

A. While there have been some reports of the occurrence of false positives, these can usually be

traced to poor quality control procedures at the laboratory site or to the fact that appropriate confirmation procedures were not used to verify the "presumptive positive." Typically the samples which were the subject of these reports were ones which tested positive by an initial screen but could not be confirmed by the confirmation assay. Such "unconfirmed positives" should always be reported as negatives.

Q. Are rigorous and costly laboratory procedures always necessary?

A. The need to use assay systems which are based on state-of-the-art methods and rigorously controlled procedures is inherent in situations where the consequences of a positive result to the individual are great. Where reputation, livelihood, incarceration, or the right to employment is an issue, maximum accuracy and reliability of the entire detection or deterrent system is indicated. In a case where the consequences are less severe, such as a counseling situation, it might be acceptable to use less rigorous systems. For instance, pediatricians sometimes use portable screening systems in their practices to assist in the diagnosis and treatment of drug problems in adolescents. Deterrence screening programs might employ screening assays alone when warnings are the only consequence and use more rigorous procedures when other actions are to be taken.

Q. Can passive inhalation of marijuana smoke lead to a positive urine even if the person did not smoke a joint?

A. Inadvertent exposure to marijuana is frequently claimed as the basis for a positive urine. Passive inhalation of marijuana smoke does occur and can result in detectable body fluid levels of THC (tetrahydrocannabinol, the primary pharmacological component of marijuana) in blood and of its metabolites in urine. Clinical studies have shown, however, that it is highly

unlikely that a nonsmoking individual could inhale sufficient smoke by passive inhalation to result in a high enough drug concentration in urine for detection at the cutoff of currently used urinalysis methods.

Q Can time of previous drug use be determined from analysis of urine?

A. Not specifically. Urine specimens positive for cannabinoids, for instance, signify that a person has consumed marijuana or marijuana derivatives from within 1 hour to as much as 3 weeks or more before the specimen was collected. Generally, a single smoking session by a casual user of marijuana will result in subsequently collected urine samples being positive for 2 to 5 days, depending on the screening method employed and on physiological factors which cause drug concentration to vary. Detection time increases significantly following a period of chronic use. Determination of a particular time of use is thus difficult. The same issues would hold for other drugs, although the time after use during which a positive analysis would be expected might be reduced to a few days rather than a week or more.

Q. Can the level of "intoxication" of an individual due to marijuana use be gauged by urinalysis? Can his or her "use patterns" be determined?

A. Impairment, intoxication, or time of last use cannot be predicted from a single urine test. A true-positive urine test indicates only that the person used marijuana in the recent past, which could be hours, days, or weeks depending on the specific use pattern. Repeated analyses over time will, however, allow a better understanding of the past and current use patterns. An infrequent user should be completely negative in a few days. Repeated positive analyses over a period of more than 2 weeks probably indicate either continuing use or previous heavy chronic use.

Q. How long after use can cocaine/heroin/phen-cyclidine be detected by urinalysis?

A. Detection times are dependent on the sensitivity of the assay. The more sensitive the assay, the longer the drug can be detected. Drug concentrations are initially highest hours after drug use and decrease to undetectable levels over time. The time it takes to reach the point of nondetectability depends on the particular drug and other factors such as an individual's metabolism. The sensitivity of urine assay methods generally available today allows detection of cocaine use for a period of 1-3 days and heroin or phenicyclidine (PCP) use for 2-4 days. These detection times would be somewhat lengthened in cases of previous chronic drug use but probably to no more than double these times.

Q. How long after marijuana is used can such use be detected?

A. Metabolites of the active ingredients of marijuana may be detectable in urine for up to 10 days after a single smoking session. However, most individuals cease to excrete detectable drug concentrations in 2-5 days. Metabolites can sometimes be detected several weeks after a heavy chronic smoker (several cigarettes a day) has ceased smoking.

Q. If a urine sample is negative a day after a positive sample, does this mean the first result was wrong?

A. Not necessarily. The actual concentration of drug in urine can change considerably depending on the individual's liquid intake. The more an individual drinks, the more the drug is diluted in the urine. A negative result on a sample taken a few hours after drinking significant amounts of liquid is quite possible, even though a clearly positive sample might have been evident before the liquid intake.

For this reason, a negative result does not mean that the person has not used the drug recently. As the excretion of marijuana metabolites reaches the approximate limit of detection by a given assay, repeated samples collected over several days may alternate between positive and negative before becoming all negative.

Q. How are the results of a urine drug assay expressed?

A. Frequently the results of an assay are reported by the laboratory simply as positive or negative. If a sample is reported as positive, this means that the laboratory detected the drug in an amount exceeding the cutoff level it has set for that drug. Different laboratories using different procedures and methods may have different cutoff levels. For this reason, one laboratory could determine a sample to be positive and another determine the same sample to be negative if the actual amount of drug in the sample fell between the cutoff levels used by the two laboratories.

Analyses may also be reported quantitatively. The actual concentration of the drug is expressed as a certain amount per volume of urine. Depending on the drug or the drug metabolite that is being analyzed, urine concentrations may be expressed either as nanograms per milliliter (ng/ml) or as micrograms per milliliter (ug/ml). (There are 28,000,000 micrograms in an ounce, and 1,000 nanograms in a microgram.) Cocaine metabolites may be detected in amounts as high as several micrograms in a heavy user, but the levels of metabolites from marijuana use rarely reach one microgram per milliliter and are usually expressed in nanograms per milliliter.

Q. What adverse health effects can be correlated with the presence of marijuana metabolites in urine?

A. No studies have attempted to correlate metabolites in urine with specific adverse health effects. The presence of metabolites in urine indicates previous use of marijuana, and use of marijuana, at least on a chronic basis, is likely to lead to adverse health effects. Specific effects, however, cannot be correlated with a single urine concentration of metabolite.

"HOW DO I DEVELOP A DRUG POLICY?"

This is the question about employee drug use most often asked of the National Institute on Drug Abuse. The following steps are recommended in developing a drug abuse policy:

Determine the need for such a program.

Write for further information:

National Clearinghouse for
Drug Abuse Information
P.O. Box 416
Kensington, Maryland 20795

If individual urine screening or other surveillance is to be implemented, determine what you will do when you identify employees who use illicit substances.

Identify treatment resources.

Get expert assistance to identify reliable laboratories with good quality control programs.

Develop a company policy. Get union, labor relations, legal, medical, and employee assistance program staff involved.

Educate employees regarding the changes in company policy and make sure they are aware of the consequences of drug use.

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