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Comprehensive DUF-style  
Study Utilizing RIA Hair  
Testing Data, EMIT/FPIA  
Urine Testing Data and  
Self-Reporting Data

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PROGRAM NARRATIVEACQUISITIONS  
STATEMENT OF ISSUESA. Introduction

It is clear to all observers of the contemporary American scene that drugs and crime are serious threats to the continuity of that way of life. Newspapers and other mass media outlets underscore each day for us the severity of both problems in a litany of murders, assaults, robberies, burglaries, drug arrests, and interdiction operations. A 1989 Gallup poll elicited from the general public the perception that drugs are the major problem facing the nation, replacing more traditional concerns such as the state of the economy or the prospects of nuclear confrontation.

Research conducted by the National Institute of Justice (NIJ), in addition to that conducted by other agencies, has well documented the dramatic link between crime and the use of illicit drugs. This body research has shown that a large portion of serious criminal offenders are active abusers of illegal drugs, and that reduction in drug usage produces a corresponding reduction in criminal activity.

Thus, a high priority must be placed on increasing our understanding of the many elements of the linkage between crime and illicit drug use, and the characteristics of the drug-using offender. This information would be extremely useful to public policy makers and funding bodies, including Congress and state legislatures, in developing and implementing appropriate public responses to combat drug abuse and crime.

Patterns of drug use are by no means static and changes are constantly occurring as new substances appear in various cities and regions around the country. Thus, it is highly desirable for local criminal justice agencies to enhance their ability to monitor patterns of local drug use, ideally estimating prevalence by drug and the characteristics of abusers.

In addition to relying on Drug Use Forecast (DUF) studies performing urine testing of arrestees, hair analysis is a potentially complimentary means of enhancing present detection and monitoring capabilities. With hair analysis, drugs may be detected over a longer period of time than is possible with urine testing.

Accurate assessment of drug use by offenders is a critical need of criminal justice agencies and the cooperating organizations often working with criminal justice institutions, such as the courts and correctional agencies. In recent years the ability to measure drug use patterns by relying solely on self-reported data has been strongly challenged, as has the reliability of historic data and beliefs derived from self-report sources.

142325

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Since 1986, a series of research reports has reached print substantiating several critical concerns regarding the adequacy of self-reported drug use data. This concern has increased our reliance on and need for physical measures, such as reliable and cost-effective urinalysis, to validate drug use, and to create indices by which self-reported drug use may be gauged. Immunoassay testing, especially EMIT testing, has played a key role in advancing this approach. It also has demonstrated the value of using clinically based chemical assays in survey work designed to measure prevalence and incidence of drug use among target populations. This research project explores the utility of radio immunoassay of hair among arrestees in Pinellas County, Florida, in serving a similar and complimentary role.

Pinellas County, Florida, with a population of 860,000 people, is the most urbanized and densely populated county in the state. The Pinellas County Sheriff's Office, in cooperation with Operation PAR, one of the nation's largest and most comprehensive non-profit providers of substance abuse services, and Dr. Tom Mieczkowski, Assistant Professor of Criminology at the University of South Florida, are presently conducting the first locally-funded Drug Use Forecast (DUF) program in the nation among arrestees in the Pinellas County Jail. Modeled on the National Institute of Justice-developed DUF protocols, both the self-report questionnaire and drug urinalysis testing will be completed by mid-January, 1990. In addition, hair samples have been collected from these arrestees for future drug testing using Radioimmunoassay of Hair (RIAH) technology, with funding for the drug testing expected to be provided by NIJ under a separate grant.

This research proposal is primarily for a three-way comparison of drug use data, incorporating an expanded DUF-style self-report questionnaire, urine testing utilizing Fluorescent Polarization Immunoassay (FPIA) and Enzyme Multiplied Immunoassay (EMIT), and Radioimmunoassay (RIA) hair analysis. } ✓

The interview forms will recapitulate the NIJ DUF questionnaire, with some modification to permit the gathering of drug use data in time frames appropriate for the study as well as gathering expanded demographic and drug use patterns. This data then will be analyzed for its relative compatibility with self-reported drug behavior, as well as its internal consistency.

The urine specimens will be analyzed for metabolites of cocaine, cannabinoids, opiates, amphetamines and Benzodiazepines at Operation PAR's laboratory using FPIA technology. These urine specimens will be "split" with duplicate samples tested at BPL Toxicology Laboratories of Tarzana, California, using EMIT, allowing for comparative analysis of FPIA and EMIT technologies. The hair samples will be analyzed for heroin, cocaine, and marijuana traces dated back 60 and 30 day intervals from the time of sample acquisition. | ✓

Operation PAR believes that the implementation of this research project focusing on an arrestee population is itself a valuable research experience. No such project has ever been carried out in the Florida criminal justice system, and it

is our understanding that no such project has yet been carried out in a local criminal justice facility in the United States.

The final research report will include a description of the relative degrees of cooperation among arrestees for each drug testing method, administrative and implementation experiences, and related issues. It will address the potential benefits and problems associated with radioimmunoassay of hair as a validation and monitoring method in criminal justice settings. The report will include an analysis of all relevant patterns and make useful observations regarding the success or failure of the implementation of the research protocol. This project would permit, therefore, an evaluation of the benefits which are potentially available by employing these methods in an arrestee population. It will create an information base for future efforts in this area.

The ultimate contribution which this project can make to our knowledge concerning crime and illicit drug use in general, and the characteristics of the drug using offender in particular, is potentially great.

Operation PAR will retain all collected urine samples for at least two years following completion of this project. It is the policy of Psychedics Corporation to retain all positive tested samples for four years and all other samples for two years.

## **B. Goals and Objectives**

The overall goal of the proposed project is to achieve a data set which allows for a series of validation studies comparing data from FPIA and EMIT, RIAH, and Self-Reported drug use, the latter hereinafter referred to as Self-Report. The specific goals and objectives that mirror this overall goal are as follows:

1. To replicate traditional concordance methods of determining Self-Report validity by comparing the Self-Report to FPIA and EMIT.
2. To compare the correlation between the Self-Report and FPIA and EMIT, on the one hand, with the correlation between the Self-Report and RIAH, on the other hand.
3. To evaluate, for the first time in a correctional setting, the correlation between FPIA and EMIT, on the one hand, and RIAH, on the other hand.
4. To complete, for the first time in a correctional setting, a triangulation study between Self-Report data, FPIA and EMIT data, and RIAH data.
5. To fully exploit RIAH's ability to mark in time a window of drug use, i.e., to test Self-Report validation longitudinally, by obtaining a relatively detailed self-reported drug use history, incorporating appropriate time markers including immediate past use and urinalysis results, and comparing same to RIAH results.

6. To compare rates of suspected drug use, following the manufacturers' cutoff levels for both EMIT and FPIA, but utilizing FPIA's semi-quantitative methodology, that is, its larger gap between sensitivity level and manufacturer's suggested threshold level
7. To create, in light of the validation measures, a preliminary data base correlating AIDS risk factors with overall drug use in general and with intravenous drug use in particular.

**C. Local Background and Initiative**

Operation PAR has entered into an agreement with Dr. Tom Mieczkowski of the University of South Florida and the Pinellas County Sheriff's Office (PCSO) to complete the preliminary steps for a three-way comparison of drug use data, incorporating a DUF-styled Self-Reporting instrument, FPIA urinalysis, and RIAH hair analysis. The three parties to the agreement have committed themselves as follows:

1. Dr. Mieczkowski will act as Principal Investigator to the project and will draft all written materials requiring technical expertise in RIAH data. •
2. By the time this application is submitted, the Pinellas County Sheriff's Office will have conducted DUF-style interviews on approximately 300 to 350 arrestees and will have collected urine samples and hair samples from as many of these same arrestees as will consent, following FPIA and RIAH protocols respectively, and will underwrite the cost of FPIA analysis. ) \*
3. By the time this application is submitted, Operation PAR will have conducted FPIA testing of the urine samples collected, using its own Drug Abuse Screening Laboratory. PAR's laboratory is state licensed as a Clinical Chemistry Laboratory and is nationally accredited by the College of American Pathologists. It is under the supervision of PAR's Medical Director, John Flint, M.D. A description of PAR's laboratory and its Research Study Protocols is appended to this application as Appendix A. Test results will not be used against the arrestee in any proceedings. The sample will have been tested for cocaine and its metabolites, cannabinoids, opiates, amphetamines and Benzodiazepines. ✓

In addition to the foregoing, an application has already been made for NIJ Discretionary funding, in the amount of \$30,000, to allow for RIAH analysis of collected hair samples, EMIT analysis at BPL Toxicology Laboratory of collected and split urine samples, and some confirmatory testing. At the specific urging of Dr. Eric Wish, the present application assumes that by the time it is reviewed, the above mentioned \$30,000 discretionary award will have been made. As a contingency, this application contains two budgets, one requesting funding for RIAH testing and the other assuming that such testing has already been completed.

In effect, these three parties have already undertaken a DUF-style pilot project using selected county jail arrestees as the population. The national DUF survey instrument has been adapted to the specific needs of Pinellas County. A copy of the Pinellas County DUF Questionnaire is contained in Appendix B. In addition, owing to local considerations, the Pinellas County project target population has been limited to 250-300 male, and 50-100 female arrestees, booked into the County Jail, to be distributed as follows: 64% non-drug felonies; 20% drug-related felonies; 16% driving under the influence; and all prostitution-related arrestees who will consent to be included.

Operation PAR has tested all urine samples and retains same in a frozen state. In addition, Operation PAR retains physical possession of all collected hair specimens and all completed DUF-style interview forms.

As is the case in the national DUF model, the background setting for the research is strictly anonymous. In addition, the Sheriff's Office has prepared a guarantee, and has elicited from the local prosecutor's office a similar guarantee, that the data obtained from this project will never be used in evidence or as part of a dispositional decision, and none will ever be traceable to a participant. Every assurance has been made that the interests of the volunteer participants will not be compromised by this project.

As described thus far, project activities have been funded entirely by the Pinellas County Sheriff's Office and Operation PAR. The three parties to this agreed upon project envision, however, the added dimension of RIAH analysis, the cost of which is prohibitive and precludes local assumption. Accordingly, the three parties, at the urging of Dr. Eric Wish, recently submitted an application for NIJ Discretionary funding specifically for the costs of RIAH hair testing. Assuming that this application is funded, Operation PAR now seeks funding for triangulation research data from FPIA and EMIT, RIAH, and the Self-Reports on the assumption that NIJ will test the urine samples using EMIT technology. Operation PAR will serve as the applicant and funding conduit while Dr. Mieczkowski coordinates the research while on release time from USF. The DUF-style survey, collected hair samples, and FPIA urinalyses as well as RIAH results from Psychomedics will be offered as resources for the grant. Finally, as an extension of efforts which have been identified as a local priority by both PAR and the Pinellas County Sheriff's Office, PAR will undertake to develop for NIJ a machine readable DUF-style questionnaire suitable for national use. PAR believes that an automated DUF questionnaire would be cost-effective in the long run and enhance the overall efficiency of data collection and analysis.

#### D. General Statement of the Problem

The issue of illicit drug use and its impact on the criminal justice system has come to occupy the top priority of criminal justice professionals at every level of system operation. From the sheriffs of small town America to the administrators of the largest prisons, the chiefs of the largest police departments, and highest ranking federal law enforcement officials, the scope and urgency of the drugs/crime connection has achieved great momentum. The drugs/crime nexus is a complex, multi-tiered, and multi-factor system of relationships, behaviors, values, and social systems all interacting together. The objective of this research project is to help clarify and add to the critical knowledge in understanding these complex relations and their mutual impacts.

While it is generally agreed that illicit drug use is widespread, the exact epidemiological dimensions of this behavior are not well known. Historically, there is no long-established data base regarding the actual levels of illicit drug use. Indeed, prior to the late 1960's, there was no urgency to create such a system. Drug abuse, while a reality of American life, was considered confined, relatively static, and not anticipated to move rapidly into new segments of the population.

There was a general realization that social attitudes and values towards drugs and drug use were changing as American society transited the last half of the 1960's (Gitlin, 1989). A variety of social agencies with an interest in drug use issues began systematic efforts to monitor in a scientific manner the use of drugs as a epidemiological event. A variety of indirect measures of drug use in the population were created. Important among these were the Drug Abuse Warning Network (DAWN) which reports on hospital emergency room visits related to drug episodes. Another is the National Household Survey conducted by the National Institute on Drug Abuse (NIDA). The National Household Survey is a self-report study done nine times since 1972, the most recent sampling having been done in 1988. Another such monitoring project has been the Johnson, O'Malley, and Bachman surveys of high school seniors done at the Institute for Social Research at University of Michigan, conducted annually since 1975 (Johnson, O'Malley, and Bachman, 1985). All of these sources of data rely on the basic methodology of self-report. This method requires respondents to identify and quantify their drug use under anonymous and confidential research settings. The Self-Report technique creates a data base which then can be applied to investigate the prevalence of drug use. Such studies generally collect other data in addition to drug use itself. This permits examining the relationship between a number of co-occurring variables and their common properties or correlations.

While useful to some extent, the nearly exclusive reliance on self-report data for determining drug use among a relatively large population is not adequate, and its utility is even more in question when applied to a criminal justice setting (Wish, Toborg, and Bellassai, 1988). Two elements are critical in limiting the utility of self-report data in this context:

1. Generally, individuals in settings where stigmatization, embarrassment or punitive reactions are even a remote possibility are not likely to be truthful regarding their recent drug use activities. They experience a form of cognitive dissonance when asked to admit to behaviors which the society and its social control authorities disapprove and penalize. Informants are generally motivated to minimize or deny drug involvement. Data based on this population can be expected to underestimate the actual levels of drug use within the sample.
2. Recent research has shown that when self-reports of drug use are evaluated by empirical testing such as urinalysis based on enzyme-multiplied immunoassay technique, inaccurate reporting is evident in the sample group. Furthermore this non-concordant reporting generally consists of denials of drug use which are not verified by chemical testing. The level of false denial tends to vary with a number of factors, such as the type of drug under consideration, the proximal versus distal time of last use, the type of interview setting, rapport between the interviewer and interviewee, and other factors. This issue is well delineated in NIDA Research Monograph 57, *Self-Report Methods of Estimating Drug Use*. ✓

E. Research Hypothesis ✗

In light of the foregoing, we propose eight primary and two secondary research questions.

The following eight specific research questions will form the core of this proposed project:

1. What are the concordance rates between drug use Self-Report, RIAH, and FPIA and EMIT? Are validation concordance rates time-sensitive and, if so, what are the patterns of time sensitivity? Are immediate, recent past and distant past Self-Reports apt to be more, less, or equally concordant? Are concordance rates affected by different markers over time? )
2. With respect to immediate past use, do FPIA and EMIT data and RIAH data results cohere, and where results are non-concordant, can these differences be analytically resolved by time window references? Do confirmatory tests support the accuracy of screening methods? ) ✓
3. Do rates of concordance between Self-Reports, FPIA and EMIT, and RIAH represent an improvement over rates of concordance between FPIA/EMIT and Self-Reports, i.e., do volunteers, aware that hair as well as urine is to be tested, become more motivated to report accurately? ✓
4. What, if any, effects are there on rates of volunteer participation when asking for hair and urine samples as opposed to asking for urine samples alone, and, if there are measurable effects, what patterns and characteristics are associated with those differing rates? )

5. Do rates of concordance between the various immuno-technologies compare favorably with each other?
6. Can correlation be drawn between specific drug use and the commission of specific crimes, and in particular, what correlation can be drawn between Prostitution-related arrests and the recent use of a specific drug? ✓
7. What percentage of arrestees were under the influence of drugs and/or alcohol at the time of their arrest, and what percentage of arrestee had used illicit drugs in the last 2-3 days prior to their arrest? ✓
8. What percentage of DUI arrestees self-report recent alcohol consumption as opposed to recent drug use? ✓

A secondary, though valuable, set of research hypotheses will be a determination of the practicality and cost-effectiveness of using hair testing technology in a forensic setting. The experiences learned through the research project may be applied in several arenas relating to the monitoring and treatment of the substance dependent offender, specifically:

1. How applicable might RIAH be in assessments and ongoing monitoring conducted by TASC (Treatment Alternatives to Street Crime) programs? How might it be applied in treatment settings where routine urine monitoring is conducted? ✓
2. Can the use of RIAH be as cost effective as urine monitoring if less frequently applied? ✓

Further, the potential applicability of utilizing lower cutoff thresholds for FPIA will be examined, recognizing that such decisions would not be used in court or other legal proceedings.

#### F. Relationship of Project With Existing Literature

##### **Historic Studies of Validation of Self-Reported Drug Use**

Criminologists have vigorously discussed self-report methods and have come to a general consensus that they are valuable (Rouse, Kozel, and Richards, 1985; Hardt and Peterson-Hardt, 1977). How they are obtained, and what meaning may be attached to them, however, is often controversial. Ever since Sir William Osler characterized opiate addicts as "inveterate liars" whose recitations were "totally unreliable", drug use self-reports have been especially suspect. Evaluating the accuracy of this type of data continues to be of interest. Self-report data on drug use has become particularly timely as criminal justice agencies have

become more concerned about illicit drug consumption, its dimensions and consequences. The ability to check self-report data against a highly accurate laboratory test is an appealing technique for validating data gathered by interviewing drug users and dealers. Few would argue that, by themselves, self-reports on drug-related and criminal activity should be accepted uncritically. But in what way should they be evaluated? Increasingly, technological innovation has come to be viewed as a method for meeting this challenge.

Historically, the most reliable clinical validator of self-reported drug use has been detection of drug metabolites in the urine. The ability to test urine for the presence of drugs while asking in an interview about recent drug use is a powerful validation technique uniquely available to this type of research. Urine testing for drugs has, over the last several years, reached excellent levels of reliability and cost effectiveness. The development of enzyme multiplied immunoassay (EMIT) technology represents significant improvement over the earliest technology, thin-layer chromatography (TLC). The technical advance EMIT represents is primarily one of accuracy, and the resultant ability to avoid high numbers of urine false-negatives (Wish, 1983).

Fluorescence Polarization Immunoassay (FPIA) is an immunoassay technology which reportedly produces results of equal to or greater reliability than EMIT. Appendix E contains specific information on the accuracy of Abbott Laboratories' FPIA in comparison to EMIT. Of particular interest is the ability of FPIA to produce semi-quantitative in addition to qualitative results. In essence, detection thresholds can be produced in numerical concentration units above or below manufacturer's recommended cutoff levels, thus permitting the ability to compare "confirmed" drug use (detectable levels at or above manufacturer's recommended cutoff level) with "likely" or "suspected" drug use (detectable levels below manufacturer's recommended cutoff level).

A parallel and even more exact technology radio-immunoassay (RIA) is also a significant advance over TLC and is equal to or exceeds EMIT's accuracy. RIA has the disadvantage of using radioactive isotopes. Thus it requires more rigorous handling procedures and safeguards relative to EMIT. Both technologies have taken advantage of the tremendous strides made in recent years in immuno-chemistry and its ability to detect extremely small concentrations of specific biochemical reagents.

The most recent drug-testing technology is the use of radioimmunoassay methodology applied to hair samples (RIAH). This technology has been primarily developed by Dr. Werner Baumgardner and several others (Harkey and Henderson, 1989). It represents an application of an already well-developed analytic methodology, radioimmunoassay, to a new specimen base.

An important responsibility of the criminal justice system involves monitoring citizens under a variety of stipulations which require them to remain drug-free. Utilizing hair samples, as opposed to urine, to test for the use of illicit drugs offers several advantages.

1. A major benefit of this method results from the fact that hair is non-volatile. Once a substance is consumed it enters the hair shaft and is fixed. It can be associated with the user until such time as the hair is separated from the body.
2. Unlike metabolites in the urine, the possibility of drug detection has a much broader window of opportunity. Hair analysis can identify quite readily past use as long ago as several months prior to the time when the sample was acquired.
3. Hair is relatively inert, not as easily susceptible to damage, manipulation or accident as urine specimens. It is simpler to store, handle, and transport. Likewise, if samples which are positive need to be held for future reference, this long-term retention is simpler, since it requires no freezers or other special storage equipment or conditions.
4. The process of gathering the samples for hair testing may not be as socially offensive as the process of collecting urine, either to the person who is being tested or the agency personnel in charge of the sampling process. ✓
5. Hair shafts emerge as longitudinal indicators of successive drug use, analogous to "tree rings" being indicators of growth. Drugs embedded in the hair form a serial chain which can reveal the successive use of a drug or several drugs over time. ✓
6. A repeat of a test for confirmatory purposes is a relatively simple matter, requiring only an additional hair snip. Thus confirmatory procedures are relatively easy, and can not be altered over time.
7. No currently known process, short of shaving the head, can alter the hair in such a way as to make it completely unsuitable for RIAH. Furthermore, nothing precludes the use of other types of body hair for this purpose.
8. This technique has developed quantification estimates which allow not only for the detection of the use of a substance, but also the relative degree of use.

### **Drug Use Validation: The Comparative Evaluation of Self-Reports**

The validation studies done of self-reported drug use have measured validity by calculating the concordance between an informant's report and an external indicator of drug use. To what extent are the self-reported rates of drug use consonant with other measures, based on alternative testing of the respondent? Historically, a number of external validators have been used, including third

party affirmation, clinical records, and polygraph data. In recent years urinalysis has become a practical and relatively widely-used technique.

This method of evaluative research defines validity of the response as a measure of the agreement or concordance between the respondent's reports and the urinalysis result. If the two agree, the response is operationally valid. The percent of cases where self-report and laboratory results agree is the index of concordance. Such percentage distributions can be tested for significance and for correlational strength.

Historically, the greatest interest has been in identifying drug users who deny their use. Although drug users who admit use and then test negative are also non-concordant, they have been of little interest. Such persons are generally assumed to be "clean" drug users or potential false positives based on technical limitations or laboratory error.

This consideration reflects the reality that there is a readily understandable motive for denial of actual drug use. For example, of the 24 studies reviewed in this proposal, 15 derived samples from populations which would be penalized if their drug use status was affirmed to authorities (they were either in treatment or on probation or parole). Some observers have noted that in a climate of increasing approbation of drug use, Self-Report techniques may increasingly become less accurate and more likely to produce underestimates. Most of the time, in the research settings considered here, there is no comparable equivalent motive to report non-existent drug use. This is not to dismiss the consideration that under some circumstances persons could see an advantage in claiming a drug-intoxicated status or history (e.g. preferential treatment in an incarceration facility or admission to a detoxification program).

Any technology developed to clinically affirm or deny drug use is equally useful for determining false under-reporting or false over-reporting. In any event, when one examines the historical findings, rates of concordance appear to be the same if the sample is derived from a treatment or corrections population. Interestingly, findings even appear to be unaffected when the respondent is not guaranteed anonymity (Leutgart and Armstrong, 1973).

While the practical logic of this comparative analytic approach is straightforward, the historic terminology is confused. Authors have used many different terms to describe concordance. "Validity" or "external criterion validity" have been the most popular terms. Some have used "reliability" as the appropriate referent. Some have argued that it can be either or both. Still others have created new terms such as "veridicality" (Bonito, Nurco, and Shaffer, 1976). The limits of this measure are perfect validity (the self-report and urine result always agree) or perfect invalidity (the self-report never agrees with the urine test result). Generally, researchers have expressed the degree of validity as a percentage, the number of concordant responses divided by the total number of responses (11 of the 24 studies reviewed here, for example).

As the review of the literature will indicate, up until the 1980's no study ever reported less than 70% validity, and many reported validation percentages into the 90's. They unanimously reported concordance as "good" or "very good". It was not until Wish (1986) published his material that these findings were challenged. Of all the studies reviewed here, through 1988, 16 support validity as "good" while seven are skeptical or in opposition to that conclusion. Virtually all the skeptical or contradictory reports have appeared since 1986. These studies all incorporate new, relatively cost-effective, and highly accurate immunoassay technology not previously available to earlier research. These recent evaluations of drug use self-reporting, like their earlier predecessors, have primarily used percentage measures (concordant responses divided by all responses) to express the validity of Self- Report.

This indicates that over the years there has not been great change in this approach. A recent study (Magura, et al., 1988) has used a nominal concordance measure, Cohen's Kappa, which Magura argues to be superior to Chi-square related measures (e.g. Phi) in evaluating 2 x 2 tables. However, the conclusions they reached support what most studies have reported, that validity is quite good. As to the utility of Kappa, under certain conditions related to marginal totals in the matrix it can detect spurious relations between variables (Bishop et al., 1975). Magura's published data, however, would be affirmed regardless of whether Kappa or Pearson's r were used as the measure of correlation of the data. Likewise, using Chi-square methods of evaluating Magura's tabular results are significant.

### **A General Framework for Reporting Validation Data**

A table which contains the response values in rows and EMIT, FPIA and RIAH values in columns is an excellent way to display concordance data. Such a table can be compounded for multi-drug screens, either as a "stack" table or an expanded spread-sheet table. This table appears on the next page.

### Illustration One: A Sample Matrix

Self-Report for any one drug	EMIT TEST		RIAH TEST		RIAH 30 day		RIAH 60 day	
	(+)	(-)	(+)	(-)	(+)	(-)	(+)	(-)
48 hours	(+)				X	X	X	X
	(-)				X	X	X	X
30 days	(+)	X	X	X			X	X
	(-)	X	X	X			X	X
60 days	(+)	X	X	X	X	X		
	(-)	X	X	X	X	X		

This format compiles the concordant cases of drug self-reports with drug assay results using FPIA, and RIAH for any single drug. A multi-drug screen would create a series of these tables for each drug under scrutiny. The X's represent those cells which, due to that particular test's technology limitations, are not useful in that particular time frame. This composite table can be visualized as "stacked" for a series of drugs. Thus in the current research project each drug self-report, FPIA value, and RIAH value would produce three extractable 2 x 2 tables for any one drug. In total, for this project, which will test for three substances, nine concordance tables will be generated for each case.

In these tables perfectly accurate self-reports (and no laboratory errors) would result in loading sets of appropriate (+)/(+) and (-)/(-) cells. Departures from this theoretical loading represents, assuming inconsequential laboratory error, non-concordant self-reports. The cells of the matrix can be assigned correlation measures showing the degree of relationship between a particular self-report and a laboratory value for that substance. The table (laboratory results vs. report) can be evaluated by a non-parametric significance test such as Chi-square.

This research design replicates the basic approach historically used in validation studies. Older studies have estimated association by using a variety of correlational measures (e.g. r, C, gamma). Such measures have suggested moderate strengths of association (Ben-Yehuda, 1980). Non-parametric techniques have been used and appropriately so. Population parameters for drug users are unknown and conceptually difficult to specify (Zinberg, 1984). Some researchers have used parametric tests assuming the sample and the population parameters equal (Bale, 1979; Bonito, Nurco, and Shaffer, 1976; Maddux and Desmond, 1975; Page, et al., 1977). Of the 24 studies listed in this bibliography, 19 relied on

urinalysis or another external validator (e.g., second opinion, official record, earlier self-report, etc.). Percentage agreement was used in 11 cases as the reported index. In five of these cases Chi-square was used to test for significance, which was affirmed in every case. Three used Pearson's *r*, and for the balance a smattering of parametric and non-parametric were used.

### A Review of the Urinalysis-Based Validation Literature

Appendix F is a summary presentation of validation research in this area ranging over the last 20 years. It reviews the validation technique, the size and nature of the population from which the sample was drawn, the inquiry procedure, the findings, and their associated quantitative measures. External validation, urinalysis, and sampling populations in treatment programs are the three most typical features of these studies. Most studies confirm the validity of self-reported drug use. More than two studies affirm the truthfulness of self-reports for every one which questions or denies it. Fifteen studies used urinalysis while nine used other validity criteria.

Before the 1980's, urine-based investigations were infrequent. A very early example is Ball's 1967 work in Puerto Rico. Using urinalysis and official records from both hospital and health authorities, Ball found that from 70-90% of a sample of 59 opiate users responded accurately to questions on drug use. He also argued that a substantial portion of the non-concordance was the result of mistakes, rather than intentional prevarication or evasion (Ball, 1967). Most of Ball's contemporaries were using non-urine based techniques, but came to similar conclusions.

Clark and Tifft (1966) used polygraph results to validate questions on criminality, including drug involvement. They concluded that response validity exceeded 90%. Their work, however, elicited a scathing attack from Lois DeFleur (1967) on their use of the concept of validity. Defleur felt the method measured reliability, not validity. Three years after Ball, Parry, Balter, and Cisin (1970) questioned volunteer residents of a moderate-sized midwestern city about legal psychotropic drug use and validated the responses against prescription lists. This study was distinct in that it used a control group. The "control" was another group who were questioned on their use of non-psychotropic prescribed drugs. They rated validity as generally "good", showing an over-all concordance rate of 74%. The percentage validity of the psychotropic experimental group was higher than the non-psychotropic control group. In a similar study Stephens (1972) used concordance measures between external evaluation by counselors compared to responses in interviews with patients at a drug treatment center. He concluded that 90-95% levels of validity characterized his sample.

Whitehead and Smart (1972), evaluating Canadian work in this area, concluded that both external and internal criteria studies in Canada established that validity of the drug self-report was "good". In the early 1970's, measuring validity by

looking at internal consistency of response also was done. Leutgert and Armstrong (1973) and Petzel, Johnson, and McKillip (1973) evaluated the internal consistency of responses in order to estimate validity of student answers to questions on drug use. Leutgert and Armstrong found that validity was good, and interestingly that it did not differ among groups interviewed under anonymous and non-anonymous situations. Petzel et al. (1973) used a "fictional item" technique. They included a non-existent drug in their questionnaire. Roughly 4% of the respondents answered positively to the question regarding use of this fictional substance. They interpreted this figure as suggesting low levels of intentional mis-reporting.

A good example of a non-urine based validation was done two years later by Maddux and Desmond (1975) who used official records as criteria. They interviewed 248 drug treatment patients, and correlated selected responses to independent official police and health records. They rated validity at 71% for their sample. A year later, Bonito et al. (1976) interviewed 349 "known substance abusers" identified through police records, and compared their drug use responses to hospital and police data. They found "high validity" generally, rating over-all performance of the sample as 80-90% valid. Only one non-urine based evaluation has challenged the prevalent findings, that drug self-reports have "good" levels of validity. Bachman and O'Malley (1981) analyzed data on drug use compiled for 16,654 high school seniors. Using an innovative approach, they tested responses for internal consistency by generating "expected" rates of use and compared the consistency of expectation rates within different time frames. Based on this analysis they argued for skepticism about self-report use, arguing that their data showed both questionable validity and suggested under-reporting of drug use. Because of the technique they were not able to attach a concordance value to the validity rate.

After Ball, Cox and Longwell (1974) reported the use of urinalysis as a validation technique, they asked methadone patients about their drug use and compared these responses to urinalysis results. They rated validity on questions of drug use as "high" (86%). Shortly after this Amsel, Mandell, Matthias, Mason, and Hocharman (1976) carried out a large-scale study to estimate validity of responses to drug use. Employing a sample of 1,500 they used five independent criteria, including urinalysis, to measure both internal and external validity of responses. Their sample was drawn from a treatment program population. Consistent with earlier work, they found validity to be generally high, rating the accuracy of response over-all at around 74% .

One of the first studies to use urinalysis, but not rely on treatment populations for a sample, was the work of Davies, Ladner, Alfassa, and Tennis (1977). They interviewed arrestees within a jail shortly after their incarceration and also solicited a voluntary, anonymous urine sample from the participants. They had a substantial N of 896 cases, and rated the validity of response to the drug questions at "greater than 90%". Bale (1979) tested drug treatment patients by urinalysis and found that their response validity was "good". He rated it overall at 76%. This was true even though the questionnaire had been mailed to the respondents and a "surprise" follow-up including urinalysis was done to valida-

te the questionnaire. They compared the written mailer responses with interview responses and urine results.

Bale's study was particularly interesting because it reflected testing done under more candid conditions than earlier work. Ben-Yehuda (1980) randomly selected 47 patients from a methadone treatment program and interviewed them on their drug use, comparing their responses to urine tests for those substances. He rated the validity at over-all around 65%, a relatively low figure compared with earlier studies. Bale, Van Stone, Engelsing, Zarcone, and Kuldau (1981) interviewed 271 ex-patients of a drug treatment program and reported a concordance of 78% between question responses on drug use and urinalysis results.

Wish, Johnson, Strug, Anderson, and Miller (1983) were the first to urine test "street criminals" by directly interviewing them outside the context of criminal justice or treatment agencies. Interviewing and obtaining urine specimens from 631 "street people" they reported concordance at 80%. Wish, Johnson, Strug, Chedekel, and Lipton (1983a) interviewed a sample of 32 volunteer street criminals and using (at the time) a new and more sensitive urine screening technology known as enzyme multiplied immune testing or EMIT. They reported validity rates for cocaine use to be consistent with earlier studies, between 70-80%. Also notable in this work was a caution regarding the reliability of earlier testing technology, which they called into serious question. Specifically, EMIT to TLC (thin layer chromatography) comparisons suggested that TLC dependent studies were likely to report significant false negatives, resulting in substantial hidden under-reporting. EMIT, administered under ideal conditions, will be 98% accurate. The 2% error is biased towards false negatives (Marshall, 1988; Field, 1987; Wish et al. 1983a). Generally, unless rather exceptional conditions are prevalent, cocaine and heroin can be identified with reliability up to 48 hours after use. Marijuana can be readily identified up to one week after use in sporadic users and up to four weeks after the last use of chronic, heavy users (Schwartz and Hawks, 1985).

The reader's attention is directed to the earlier section on FPIA testing. Note that ideally, FPIA and EMIT should correlate and the measure of that correlation would be per cent agreement. The FPIA and EMIT data correlation could be expressed in a table, such as the following:

	+	FPIA	-
+	1		2
E M I T			
-	3		4

In this example, cells 1 and 4 should load perfectly and these loadings could be measured by a correlation indicator such as C or Kappa. The extent to which there is a departure from loading the 1/4 diagonal, we would be measuring FPIA/EMIT non-concordance. This non-concordance can be evaluated by a Chi-square based analysis and also by correlation measures such as C or Kappa.

### **The Challenge to High Rates of Validity: The Use of EMIT and The Creation of The Drug Use Forecast**

In 1986 Wish and others published a series of reports which challenged the level of validity reported in their own earlier concordance studies, as well as the relatively high historic rates of concordance reported by others. Wish (1986) reported the self-reports of PCP users compared to urine results screened by EMIT showed substantial under-reporting. Using a large N (4,847) of arrestees, Wish demonstrated that more than two-thirds of the sample had not accurately answered questions on PCP use. Furthermore, Wish's work suggested that earlier studies and their consequent validity rates, which were largely concerned with heroin use, might need to be revised when considering other substances.

Data compiled during the mid-1980's seemed to confirm this view. With rising cocaine use, and a relative diminution of heroin use, validity measured by concordance rates were not sustaining the high numbers of the 1960's and 1970's. Carver (1986) reported that in pre-trial drug screening of arrestees in Washington, D.C., 52% of the self-reports on cocaine use were not concordant. Wish, Cuadrado, and Martorana (1986) found that, in a sample of 106 probationers, self-reported drug use was "grossly under-reported". Depending on the substance in question under-reporting appeared to entail a range of use two to ten times higher than report. Likewise, Wish, Brady, and Cuadrado (1986) reporting on 6,633 arrestees in New York found that nearly one-half (44%) were not concordant on drug use and their urinalysis results. Wish (1987) in examining cocaine use in New York found that the concordance between response and urine result was less than 46%.

### **The Drug Use Forecast**

The most comprehensive urinalysis-based drug monitoring program ever created is the current Drug Use Forecast system (DUF), established in 1986 by the National Institute of Justice in conjunction with the Bureau of Justice Assistance. Established currently in 22 cities nationwide, this survey/urinalysis program has created the single largest data base on drug use among arrestees. In addition to providing verified data on the extent to which arrestees test drug positive (using EMIT technology), the DUF provides some data on the socio-demographic characteristics of the tested arrestee population.

The single largest shortcoming of the DUF project is that, by its design, it relies on the voluntary cooperation of arrestees. It is important to note that in this regard the DUF has had rather startling success. In all cities the rates of cooperation are between 80-90%, and in some cities even higher. This, however, does not alter the fact that the representative nature of the sample is not known, and this limits the rigor with which generalizations can be made about DUF findings. On the positive side, however, is the high levels of cooperation achieved at DUF sites. These figures are encouraging in that similar methodologies using volunteers seem feasible, even when those volunteers are in the stressful environment of a jail, and have recently experienced the trauma of arrest.

For our purposes in the context of this proposal, the DUF's important elements are its creation of drug data based on a 10 drug screen of arrestee's urine and the taking of a relatively detailed drug use history, asking respondents to indicate drug use patterns over extended periods of time. The simultaneous collection of self-report data along with urinalysis create the necessary data to examine validation issues.

Mieczkowski (1989) and Harrison (1989) have done the most extensive analysis on the validation of self-reported drug use using DUF data. Mieczkowski has noted that, in relation to the DUF data, there is more concordance of self-report in every category of drug and at various levels of drug use than can be accounted for by random chance. Substance type does appear to be related to the accuracy of self-reported data, and that this relationship is especially notable in regards to cocaine. Cocaine users appear to have a substantially greater likelihood of falsely denying recent drug use than either marijuana or opiate users.

Harrison's material essentially shows the same basic properties, namely that cocaine users appear to be the most likely to deny drug use which is confirmed by EMIT analysis of the urine. This is especially evident if one examines Figures 3, 4 and 5 in her paper. In every category of drug, however, the single largest cell value is the denial of use/negative urine category. Harrison does not evaluate this distribution by Chi-square, but it would appear to be significant.

This recent series of reports are significant in raising questions regarding the "well-established" validity of drug use self-reports (Toborg and Kirby, 1984). There are two reasons which may explain why this recent work fails to sustain the older literature.

1. New technology in chemical screening shifts the validity figures into the low range. It detects drug-positive urines that would be reported as drug negative with the older technology (thin layer chromatography).

2. Traditionally, heroin users have dominated the validation studies. With the diminution of heroin and the rise of cocaine the level of validity may vary. Concordance indices may be sensitive to the type of substance reported, so that specification of drug type is critical. As the prevalence of drugs type shift, validity figures will fluctuate.

#### **Hair Analysis:**

#### **The Radioimmunoassay of Drugs in Human Hairshafts**

The use of hairshafts as a specimen base for analysis of drugs of abuse is a technology that has been under development for a little more than ten years. While still considered in the developmental stage, it is a promising technology which supplements and extends the repertoire of testing and measurement devices available for research purposes. The technical accuracy and scientific basis of RIAH is relatively well-established, with a substantial scientific bibliography accumulated on the laboratory techniques, immunochemical processes, and scientific validity of the assaying method (Harkey and Henderson, 1989; Baumgardner, 1988). It is in the realm of the application of this process to criminal justice systems, case management, disposition decisions, and its acceptability as legal (as opposed to scientific) evidence that one finds only very early and preliminary work. Hair analysis has been accepted in some courts as evidence, but it is not considered, in general, to have yet met the Frye Test of "generally accepted relevance by the scientific community" (Smith and Liu, 1986).

In general, hairshaft analysis offers the criminal justice system the following capabilities as distinct from any other currently available drug screening technology:

1. An ability to detect long-term drug use, limited only by the specimen's length dimension.
2. Very high levels of resistance to sample manipulation or adulteration by the subject which would alter the assay outcome.
3. Improved methodology to avoid false negatives in the assay procedure.
4. Test/re-test processing is possible and not complex.
5. Less invasive and less sociologically sensitive collection procedure relative to body fluid analysis.

The research, diagnostic and evaluative significance of RIAH is profound. It not only offers the host of potential pragmatic advantages discussed earlier, but opens formerly inaccessible information on drug use patterns. The ability to collect self-report data on drug use and compare it simultaneously with urinalysis validation and hair shaft validation is a very powerful set of monitoring tools. It is important to note that, in this regard, urinalysis and hair

analysis do not compete as validator "head-to-head". Urinalysis remains the validator of choice for the immediate past. RIAH adds to the monitoring process by allowing to augment the immediate past, potentially going back weeks or months to unequivocally determine drug use history. This offers several positive benefits:

1. Multiple validators raise the level of confidence in the total clinical profile in any given case. By creating three sources of input data (the self-report, urinalysis, and the RIAH) one attains greater assurance of clinically verifiable information.
2. Two organic processes allow for fallback positions regarding case identification that do not now exist. A client who cannot or fails to be monitored under the close scheduling required by urinalysis-based screening may now be "backed up" by a RIAH analysis. It also implies that agencies may attain actually levels of close supervision and simultaneously reduce the current required levels of client reporting, since RIAH has such a broad time window.
3. Measuring concordance rates for research purposes now can be moved retrospectively. Much more sophisticated evaluations of drug self-reports now become possible.
4. A good deal of current evaluation research (Anglin and Speckart, 1896; Anglin and Speckart, 1988; Hser and Anglin, 1990; Wish et al., 1986) all suggest that drug users who are closely supervised and clinically monitored have increased probabilities of reduced criminality and reduced drug abuse activity. If RIAH widens the window of observability, then it may result in promoting this tendency in treatment and supervised populations.
5. Police officials generally believe that confronting people with irrefutable proof of activity can often lead to self-admission of the activity under question. It is possible that as knowledge of the RIAH technique becomes socially established it may, on its own momentum, raise the levels of accurate self-reports. It may make false self-reporting a relatively infrequent event compared to present rates.

## **RELEVANCE OF THIS PROJECT TO THE CRIMINAL JUSTICE SYSTEM**

### **A. Issues and Concerns of Present Criminal Justice Policy**

Attempting to measure the prevalence of drug use in an offender population is a major challenge to researchers and practitioners in criminal justice. Accurate estimates of drug use trends within a population are critical in intelligent and efficient resource allocation and planning. Evaluation of control strategies requires that use trends be determined and tracked over time.

At a variety of custodial levels the monitoring of the drug status of offenders is critical to practitioners. The use of drug monitoring to inform decision makers about disposition of particular cases is already an established feature of some local justice agencies (Carver, 1986). It appears likely that criminal justice agencies will continue to require information about drug behavior in the future. It is therefore relevant and desirable that research explore and evaluate the most promising technologies available that bear on the needs of prevalence estimation.

In the following sections it is our intent to review the literature on the validation of self-reported drug use by using several different external criterion validators. This review will bring us to the status quo and the use of urinalysis and radioimmunoassay of hair in estimating the validity of self-reported drug use.

## **B. Contributions of the Present Project**

We suggest that the proposed project helps advance criminological knowledge of the validity of self-report data. We also suggest that this project's research products will contribute to criminal justice practice. This project will make an important contribution by creating a record of performance through its implementation. To the best of our knowledge there is no criminal justice agency in the country which has attempted to gather simultaneously from an arrestee population self-reported drug use, urine specimens and hair samples for RIAH analysis. Thus, the experiences of the research staff, the rates of participation of volunteers, the difficulties and unanticipated events while carrying out the data collection, all will prove valuable to others considering the potential application of this technology for their own agency or operations.

Further, as previously noted, a determination will be made of the practicality and cost-effectiveness of using hair testing technology in a forensic setting. The experiences learned through the research project may be applied in several arenas relating to the monitoring and treatment of the substance dependent offender. The study of lower cutoff thresholds for FPIA will be reviewed carefully by PAR and local criminal justice officials to determine the manner such data might be applied.

## **THE RESEARCH DESIGN AND METHODOLOGY**

This project will examine three measures of the current and recent past drug use in approximately 300 arrestees in the Pinellas County Jail. The three measures of drug use will be self-report data, the results of FPIA and EMIT urinalysis, and the results of RIAH from hair samples. This population was interviewed within five hours of their arrest using a slightly modified version of the DUF survey instrument. Arrestees were asked to submit a urine specimen and a hair sample.

The Sheriff's Office arranged for four county jail social workers to adjust their respective work schedules for the month of December, 1989, in order to allow coverage of the booking section of the jail during the peak traffic hours of 4:00 p.m. to midnight, Monday through Friday. The four social workers all completed a project training session complete with audio-visual aids and, in particular, viewed a videotape prepared by Psychomedics Laboratories on proper procedures for acquiring hair samples for RIAH. ✓

Arrestees meeting the project profiles specified above were identified by jail booking personnel, given an index card recording both the arresting agency and the top-ranked offense, and then were referred to the social worker on duty. The social worker asked the arrestee to participate in the project, assuring the arrestee of full anonymity and immunity from prosecution for any test results elicited. In those cases where the arrestee agreed to participate, the social worker completed the adapted DUF-style survey.

The questionnaire covered the following general areas:

- basic demographics
- self-reported current and past use of drugs
- substance abuse treatment history
- present arrest charge
- high risk behaviors for AIDS

In addition to completing the adapted DUF-style survey, the social worker collected and stored a urine sample, and collected and stored a hair sample, using DUF and Psychomedics protocols, and coded the samples such that each participant's survey, urine sample, and hair sample bear the same anonymous code number. It will, thereby, be possible to merge FPIA data, RIAH data, and Self-Report data into one file and, if this application is funded, add EMIT data from BPL, as well.

It is important to emphasize that all DUF and RIAH protocols have been strictly observed. Urine samples have been collected in specimen bottles designed expressly for this purpose and provided by Operation PAR. These bottles are self-sealing when closed and have been further covered with an evidence seal. The samples have been recorded on a log-sheet, using the coded number, and have been stored in trays in a locked refrigerator. Jail social workers, PAR personnel transporting the samples, and PAR Laboratory personnel have all followed standard Chain of Custody procedures in documenting the custody of the samples. Similarly, hair samples have been collected in RIAH kits provided by Psychomedics Laboratories and have been sealed with evidence tape. Laboratory slips, provided by Operation PAR, included two detachable code numbers matching the number on the ticket. The detachable code numbers were affixed to the urine sample and hair sample of each respective participant, and this same number was recorded on the participant's survey instrument. Thus, while each participant's urine sample, hair sample, and survey instrument can be internally linked, there is no link between the participant and any data. ✓

The interview and specimen gathering are being done at the expense and with the cooperation of the Sheriff of Pinellas County. Thus funding for the project will not include expenses related to any interview staffing, training or similar expenses. The Sheriff's Office and PAR will provide to the Principal Investigator copies of all survey instruments, results from all FPIA urinalysis, and the collected hair specimens. The project will consist of managing the RIAH analysis of the hair samples, analyzing the data so as to enable evaluation of the research hypotheses, writing the necessary technical reports, placing the data in various formats required by the research design, and related activities.

In anticipation of implementing the DUF-style project in Pinellas County, staff from Operation PAR created a local DUF protocol, in order to assure uniformity in the collection of both hair and urine specimens, to assure proper chain of custody, to assure uniformity in the recording of survey answers and to assure anonymity and confidentiality to the participants while at the same time preserving an internal link between the various data bases. A copy of this protocol is appended to this application as Appendix G.

Operation PAR will retain all collected urine samples for at least two years following completion of this project. It is the policy of Psychemedics Corporation to retain all positive tested samples for four years and all other samples for two years.

#### DESCRIPTION OF THE EXPECTED RESEARCH PRODUCTS

At the completion of this project the following products of the research will be created:

1. A machine readable data file consisting of the interview data. These files will exist as SPSS-PC system files, and be readily convertible to other PC-compatible software programs.
2. A machine readable data file consisting of the FPIA urinalysis data and EMIT urinalysis data obtained from BPL. These files will exist as SPSS-PC system files, and be readily convertible to other PC-compatible software programs.
3. A machine readable data file consisting of the RIAH data. These files will exist as SPSS-PC system files, and be readily convertible to other PC-compatible software programs.
4. A detailed technical report, including tabular presentations and analysis of the concordance between all four of these data bases and analytic evaluation of the data, will be produced and delivered to the National Institute of Justice, Office of Crime Prevention and Research, which report will outline the data analysis procedures, the results of validation estimates and concordance estimates, the reporting and analysis of rates of cooper-

ation from the target population, and a narrative description of the research project experiences in carrying out the design.

5. An implementation report on the local experience in RIAH collection will be produced and delivered to the National Institute of Justice, Office of Crime Prevention and Research.
6. An ongoing literature search and review of published studies and reports on hair analysis in forensic settings will be initiated
7. An operational manual on the collection and correlation of data from FPIA/EMIT, RIAH, and Self-Report, for technology transfer, will be produced and delivered to the National Institute of Justice, Office of Crime Prevention and Research.
8. An automated and machine-readable DUF survey instrument will be developed and a supply of same will be printed. Machine-readable data files will also be developed and delivered to NIJ, in SPSS-PC format.

These various research products will serve as a basis for academic papers written by the Principal Investigator for the purposes of publication and presentation at major conferences, such as the American Society of Criminology, the Academy of Criminal Justice Science, and similar professional organizations.

## ORGANIZATION AND MANAGEMENT PLAN

### 1. Organization Structure and Staffing Plan

Operation PAR will be the grantee, with Dr. Tom Mieczkowski, Assistant Professor of Criminology at the University of South Florida as the Principal Investigator. Dr. Mieczkowski's vitae appears in Appendix K. A half-time Research Assistant will be hired by PAR to assist in the development of an implementation manual and the development of the automated DUF questionnaire. The Research Assistant will have a minimum of a bachelor's degree with related experience, and will report to Harvey Landress, PAR's Director of Administrative Services, who will provide direct administrative support for the grant. His vitae also appears in Appendix K.

Operation PAR has considerable resources which are available for this project. These resources include the guidance and supervision of senior staff, access to an administrative management system, a fiscal management system, and staff experienced in the production of manuals, protocols and a variety of reports and publications. Among key staff available for this project include the following:

Shirley Coletti. Mrs. Coletti, Operation PAR's President since the agency's inception in 1970 Coletti, is well known in Florida, nationally and internationally as a leader in the field of substance abuse prevention and treatment. Among her many honors and accomplishments are her appointments by former President Reagan to the United States Senate Caucus on International Narcotics Control and by U.S. Health and Human Services Secretary Bowen to the National Advisory Council on Drug Abuse of the Alcohol, Drug Abuse and Mental Health Administration. She presently serves as a member of the Governor's Drug Policy Task Force, the Juvenile Justice and Delinquency Prevention Advisory Committee, the Office of Minority Health Resource Center, the Board of Florida Informed Parents for Drug Free Youth, the American Medical Association's Steering Committee on Prescription Drug Abuse, the Advisory Board of the National Association for Perinatal Addiction Research and Education, and is a Board member of the Therapeutic Communities of America.

Harvey J. Landress, ACSW. Mr. Landress is Operation PAR's Director of Administrative Services and is an Adjunct Professor of Criminology at the University of South Florida, St. Petersburg. He has 17 years experience in human services and education, including 10 years experience with Operation PAR in developing and implementing substance abuse programs. He is the co-PI on previous two research grants involving treatment outcomes of women and the epidemiology of maternal substance abuse. He also has designed and been involved in several other research projects. He is the author of more than half a dozen articles relating to substance abuse.

David J. Barzelay, Ph.D. Dr. Barzelay recently joined the staff at Operation PAR as a Resource Development Specialist, after 13 years in the Virgin Islands. He has a Master's Degree in Counseling, as well as a Ph.D., and served as State Counseling Supervisor for the Virgin Islands Department of Labor, Staff Developer for the Virgin Islands agency responsible for juvenile criminal justice and Executive Director of the Virgin Islands Humanities Council. Dr. Barzelay also has ten years of experience as an Adjunct Professor at the University of the Virgin Islands.

## 2. Organizational Capability

Operation PAR, Inc., is a comprehensive substance abuse prevention, education and treatment agency serving Central Florida in general and Pinellas County in particular. Incorporated in 1970 as a not-for-profit corporation, PAR was founded by State Attorney James T. Russell, and former Pinellas Sheriff Don Genung, and began providing treatment to hard-core heroin addicts in 1971. Prior to receiving any funding, Operation PAR provided 7-day-a-week service with an entirely volunteer staff of professionals and para-professionals interested in the drug abuse crisis. Since that time, PAR has developed the largest and most comprehensive non-profit system of drug and alcohol abuse services in the State of Florida, serving more than 37,000 people in 1988.

PAR was nationally recognized in 1986 when it was named the "Outstanding Program" in the United States by the Alcohol and Drug Problems Association.

PAR presently operates more than 20 substance abuse programs in 13 locations in three counties, including an 84 bed long-term adult residential treatment program, which is expanding to 149 beds in early 1990; a 30 bed residential program for adolescents; an 8 bed drug detoxification center; outpatient treatment programs including methadone maintenance; criminal offender assessment and diversion programs; in-jail and prison education and treatment programs, school-based prevention programs; intervention programs for high risk elementary and middle school children; drug and alcohol education and treatment programs for teens and their parents; parent programs; diagnostic and evaluation services; extensive community education and training programs; and a licensed urinalysis laboratory. In 1987, PAR was awarded a three year Federal demonstration grant from OSAP concerning services to cocaine addicted pregnant women and mothers, and their small children. In 1989, PAR was awarded a major research grant from the National Institute on Drug Abuse concerning treatment outcomes of women with their infants in residential treatment.

Operation PAR has a current, permanent work force of approximately 220 full-time employees. With an annual agency operating budget of approximately \$8.5 million, PAR currently administers grants in excess of \$6.5 million from the State of Florida, Florida Department of Corrections, U.S. Probation and Parole, Office of Substance Abuse Prevention, National Institute on Drug Abuse, Pinellas County, the City of St. Petersburg, the United Way and the Juvenile Welfare Board of Pinellas County. The agency enjoys an excellent relationship with all funders and is proud of the sound fiscal management as well as the quality services.

**Related Experience.** Operation PAR has a major interest in conducting and coordinating research relating to a wide variety of substance abuse issues. Noted below are the more recent research projects in which Operation PAR has initiated or cooperated.

- a. **Epidemiology of Study Substance Abuse Among Pregnant Women in Pinellas County, Florida.** Ira Chasnoff, M.D., Associate Professor of Pediatrics at Northwestern University and Principal Investigator, has conducted research with Operation PAR (Harvey Landress, Co-Principal Investigator), to estimate the prevalence of the use of cocaine and other drugs among pregnant women in Pinellas County. Locally funded, this study is the first population-based research effort in the nation. The study, which was completed in mid-1989, has been submitted for publication. The research results received widespread national coverage in September 1989.
- b. **Residential Treatment of Addicted Women and Their Infants.** Funded by the National Institute of Drug Abuse in October 1989 for three years, this major demonstration research project will examine the treatment outcomes of randomly assigned substance abusing mothers with cocaine babies who enroll in long-term residential treatment. Patrick Hughes, M.D., Associate Professor of Medicine at the University of South Florida, is the Principal

Investigator. Shirley Coletti, PAR's President, is the Co-Principal Investigator. Harvey Landress is grant coordinator.

- c. Economic Addiction: Impact on Families. Locally funded, this research study examined the economic impact on families of teenagers involved in crack cocaine sales. The study was conducted in late 1989 by University of South Florida faculty Dr. Richard Dembo, Professor of Criminology, Patrick Hughes, M.D., Associate Professor of Medicine; Dr. Tom Mieczkowski, Assistant Professor of Criminology, and Lisa Jackson, Resource Development Specialist from Operation PAR.
- d. Prevalence of Substance Abuse Among Youth. Portions of the annual NIDA survey of high school seniors have been modified and implemented locally by PAR several times in the early and mid-1980's. Set again to be implemented in February 1990, PAR has developed mark-readable scannable forms for this project. Harvey Landress and Arnold Andrews of PAR are the Principal Investigators.
- e. Pinellas County DUF Survey. In cooperation with the Pinellas County Sheriff, Operation PAR has initiated the first locally-funded Drug Use Forecast project, which has been described elsewhere in this proposal. David Barzelay and Harvey Landress of Operation PAR have coordinated this project.
- f. Health Outcome of Infants Born to Cocaine Dependent Women in Treatment. This research project is coordinated by the Florida Department of Health and Rehabilitative Services with Ira Chasnoff, M.D., as Principal Investigator. PAR is one of three sites in Florida participating in this project, which will run from February through September 1990. It will examine the health outcome of babies born to cocaine dependent women who have been in substance abuse treatment with a comparison group.

### 3. Project Task Plan

The anticipated life of this project is one year from the date of commencement until completion, and the project life will cover the time span of September 1, 1990 through August 31, 1991. If funding is available earlier, we request that the grant period extend from June 1, 1990 through May 31, 1991.

#### A. Within Two Weeks After Notification of Grant Award Notice

Draft subcontracts between USF and PAR	Landress/Barzelay
Order equipment and software	Landress/Miecz- kowski/Barzelay
Develop progress reporting protocols	Landress/Miecz- kowski/Barzelay
Advertise for Research Assistant	Landress
Submit request for funding advance	PAR Finance Dept.

**B. By the End of the First Month**

Subcontracts signed  
Hire staff  
Purchase equipment and supplies  
All data files entered  
Literature search initiated

Landress  
Landress  
Barzelay/USF  
Mieczkowski  
Mieczkowski

**C. By the End of the Third Month**

Initial data analyses complete  
Outline of implementation manual  
  
Mark readable survey draft completed  
  
Reimbursement request submitted  
Progress report submitted

Mieczkowski  
Mieczkowski/Research  
Assistant  
Research Assistant/  
Mieczkowski  
PAR Finance Dept.  
Landress/Miecz-  
kowski/Barzelay

**D. By the End of the Sixth Month**

Prime data analyses complete  
Implementation manual draft complete  
  
Mark readable survey ready  
for printing  
  
First publication prepared  
Reimbursement request submitted  
Progress Report submitted

Mieczkowski  
Mieczkowski/Re-search  
Assistant  
  
Research Asst./  
Mieczkowski  
Mieczkowski  
PAR Finance Dept.  
Landress/Miecz-  
kowski/Barzelay

**E. By the End of the Ninth Month**

Secondary data analyses complete  
Implementation manual complete  
  
First draft of final report started  
Mark readable surveys printed  
Reimbursement request submitted  
Progress report submitted

Mieczkowski  
Mieczkowski/Research  
Assistant  
Mieczkowski/Landress  
Research Assistant  
PAR Finance Dept.  
Landress/Miecz-  
kowski/Barzelay

**F. By the End of the Twelfth Month**

All data analyses completed  
Final report submitted  
  
Additional publications prepared  
Grant closed out

Mieczkowski  
Mieczkowski/Lan-  
dress/Barzelay  
Mieczkowski  
PAR Finance Dept.

## BUDGET NARRATIVE

### Personnel

Research Assistant is budgeted at 50% time of base salary of \$26,775 or \$13,388 for the funding period.

### Fringe Benefits

Fringe benefits are calculated at a rate of 19% or \$2,544. Fringe includes FICA, workers compensation, health, life and dental insurance and retirement.

### Travel

Travel for two persons to attend project-related conferences, budgeted at \$1,000 per person per conference for a total of \$4,000. It is expected that papers will be presented at these meetings. It is anticipated that the Principal Investigator and one PAR staff will attend the American Society of Criminology and the Academy of Criminal Justice Science.

Travel for the Principal Investigator to attend the NIJ Program Development Review Conference is suggested by NIJ to be \$1,000.

Local travel is budgeted at \$300 and is computed as 1,500 miles at a rate of \$.20/mile.

### Equipment

A laptop personal computer will be purchased for the use and possession of the Principal Investigator. All data will be loaded onto this computer and used for data analysis for this project. A 40 MB IBM-PC laptop computer is estimated to cost \$3,400, including all necessary peripherals and accessories (carrying bag, interface cable, battery pack, etc.).

Software will be purchased for the computer so as not to violate copyright restrictions on protected software. Computer software is budgeted as follows:

SPSS-PC	\$1,900
WordPerfect 5.0	200
Lotus 1-2-3	400

## Contractual

Operation PAR will enter into a formal contract with the University of South Florida for \$26,808 to "buy out" 50% of the time of Prof. Tom Mieczkowski, Principal Investigator. This will be for an academic year of 9 months, the base pay period for USF faculty.

Principal Investigator (9 months, .5 FTE)	15,370
Fringe @ 34.7%	5,341
USF Indirect Cost @32%	6,097

PAR will enter into a contract with the Principal Investigator for \$12,000 for the remaining 3 months of the funding period. This will cover the three month summer period of either 1990 or 1991, depending upon when the grant commences. The P.I. will be responsible for all fringe benefits such as FICA, health insurance, etc.

Occasional clerical support is budgeted at 200 hours @ \$8.00 per hour for a total of \$1,600.

## Other

### a. Office Expenses (\$2,180)

Office space for the Research Assistant is computed on the basis of half-time usage of 250 square feet of leased space @ \$10.25/square foot, including utilities and janitorial service for a total of \$1,280.

Office supplies are budgeted at \$200, postage at \$200, photocopying at \$300 and long distance telephone calls at \$200. These expenses are estimates based on the scope of proposed activities and Operation PAR's previous experience in federally-funded projects and total \$900.

### b. Printing of DUF Questionnaires

An automated DUF questionnaire will be developed and printed for NIH as well as use in Pinellas County, Florida. Because there are a limited number of providers preparing custom scannable forms, and thus development and printing costs appear high. 10,000 copies of machine readable-DUF questionnaires will be printed. The printing costs are estimates which may be revised, depending on the size and complexity of the final questionnaire.

Set-up costs	6,000
Printing costs	8,000

c. Costs for Hair Analysis

SPECIAL NOTE:

Operation PAR has applied for separate funding from NIJ for this component. If funded under the separate application, this funding request for hair analysis must be disregarded and withdrawn from the budget. ✓

Operation PAR received a special price quotation from Psychemedics Corporation of \$25,000 to do analysis of two sections of 300 hair samples, testing for opiates, cannabinoids and cocaine. This price is 17% lower than the standard quoted price for such testing. Confirmatory testing of non-concordant hair and urine testing results is budgeted at \$5,000, an amount suggested by NIJ.

All project-related hair and urine samples will be preserved and retained for two years.

Indirect Charges

Operation PAR has a federally approved indirect cost rate for 1989 of 17.5%. A revision to increase that rate to 19.8% will be submitted in January of 1990. The rate of 19.8%, is thus applied as the indirect cost rate in this proposal.

CONTINGENCY BUDGET

The following budget would be applicable if the \$30,000 in funds for the hair analysis is funded under another grant application and removed from this request.

Personnel	13,388
Fringe Benefits	2,544
Travel	5,300
Equipment	5,900
Contractual	40,408
Other	16,180
Total Direct Charges	83,720
Total Indirect	16,577
Grand Total	100,297

## **APPENDICES**

- A. Description of Operation PAR's Drug Abuse Screening Laboratory**
- B. Pinellas County DUF Questionnaire**
- C. Support Letter from the Pinellas County Sheriff and Local Publicity**
- D. Letter from the Pasco-Pinellas State Attorney (local prosecutor)**
- E. Descriptive Material on Fluorescent Polarization Immunoassay**
- F. Bibliography of Studies Evaluating the Validity of Self-Reported Drug Use**
- G. Pinellas County DUF Protocol**
- H. Operation PAR Description of Services**
- I. References Cited**
- J. Protocols for RIA of Hair Sample Acquisition**
- K. Curriculum Vitae**

**APPENDIX A**

## PAR DRUG ABUSE SCREENING LABORATORY

Operation PAR Drug Abuse Screening Laboratory, located at 1900 9th Street South, St. Petersburg, Florida, is solely dedicated to quality testing for drugs of abuse. It is the only non-profit laboratory in the State of Florida currently holding national accreditation by the College of American Pathologists. The laboratory is licensed by the State of Florida, Department of Health and Rehabilitative Services, as a Clinical Chemistry Laboratory (License # 800001423). The laboratory conducts more than 80,000 urine tests a year.

Research Study Protocols. In addition to the protocols detailed here, no subject name will appear on any urine specimen bottle or form used in this research study. All bottles and laboratory slips will be identified by number only and contain the date collected and the name of the interviewer.

All urine testing for the research study will be conducted for the following drugs:

- Amphetamines
- Benzodiazepines (Valium, Librium, etc.)
- Cannabinoids (marijuana, hashish, THC)
- Cocaine
- Opiates

PAR Drug Abuse Screening Laboratory is under the supervision of John Flint, M.D., whose only employment is with Operation PAR. In addition to Dr. Flint, two full-time staff are employed, both holding state licenses as Medical Technologists, holding national registry through the American Society of Clinical Pathologists, and are certified by the American Correctional Association.

Testing Methodology. PAR Drug Abuse Screening Laboratory utilizes the Enzyme Multiplied Immunoassay Technique (EMIT) system and Fluorescent Polarized Immunoassay (FPIA) in screening for drugs of abuse. EMIT and FPIA tests have been shown to be among the most consistently accurate drug testing methods in current use. Current Federal regulations as outlined in the 1988 Mandatory Guidelines for Federal Workplace Drug Testing Programs specify that immunoassay shall be used as the first test to be applied to any specimen from a Federal worker.

The laboratory follows manufacturer recommended cut-off levels to determine the presence of drug metabolites. All specimens testing positive are testing a second time with all specimens as part of this research study frozen and retained for one full year after testing. Confirmatory testing by Gas Chromatography/Mass Spectrometry testing is conducted under contract with Allied

Laboratories, St. Petersburg, Florida, a state licensed Clinical Chemistry Laboratory.

PAR participates in blind proficiency programs sponsored by both the College of American Pathologists and the American Association of Bioanalysts. PAR has consistently had a 100% proficiency rating.

Chain of Custody and Collection Protocols. Fully documented chain of custody information is maintained on all specimens. PAR's custody procedure requires that each laboratory slip and specimen bottle contain the signature or initials of the person giving the specimen. Laboratory staff have been called as expert witnesses in Florida civil, criminal and administrative proceedings. PAR's chain of custody and testing results have been held valid in every challenge in Florida criminal and civil courts, and in administrative hearings such as the Florida Probation and Parole Commission and the Florida Employees Relations Commission.

PAR collection protocols require that urine samples be collected in a manner which minimizes falsification. PAR requires that all specimens collected be observed by a trained staff member of the same gender. Packages, purses, coats and other similar items are not permitted to be in possession of the patient when the specimen is collected. Once collected, all specimens are locked in a refrigerator after being logged in detailing the date and time of collection, name of urine monitor and laboratory slip number. Caps with tamper-proof, self-sealing lids are used as well as evidence tape. When specimens are transported to the laboratory, each sample is checked against the log sheet, verified and placed in a "lock box". The date, time and signature of the person transporting specimens is maintained. Once delivered, laboratory staff verify each sample against the log sheet and laboratory slips, and again in writing detail the date, time and name of person receiving specimens. In this manner, chain of custody is maintained.

In addition to delivered specimens, laboratory customers can utilize a mail-in system. Postal service-approved mailers contain urine bottle, evidence tape for covering both the lid of the specimen bottle and the outside of the mailer, and laboratory requisition form. This methods has also withstood all legal challenges.

Most testing is completing within 24 hours of receipt. Emergency testing results are available within two hours, if necessary.

**APPENDIX B**

# PINELLAS COUNTY DUF SURVEY

DAY'S DATE \_\_\_\_\_ INTERVIEWER \_\_\_\_\_

## URINALYSIS SPECIMEN I.D.

## RESULTS OF REQUEST FOR URINE AND HAIR SAMPLES

\_\_\_\_\_ URINE \_\_\_\_\_ HAIR

- 1 PROVIDED SAMPLE
- 2 REFUSED
- 3 TRIED BUT COULDN'T URINATE

## DEMOGRAPHICS

AGE \_\_\_\_\_

YEAR BORN \_\_\_\_\_

SEX \_\_\_\_\_

- 1 MALE
- 2 FEMALE

ETHNICITY \_\_\_\_\_

- 1 BLACK
- 2 WHITE
- 3 HISPANIC
- 4 OTHER (SPECIFY) \_\_\_\_\_

## ARREST INFORMATION

WHICH AGENCY MADE ARREST?

- |                       |                            |
|-----------------------|----------------------------|
| 1 SHERIFF'S DEPT.     | 10 GULFPORT P.D.           |
| 2 ST. PETE P.D.       | 11 INDIAN SHORES P.D.      |
| 3 CLEARWATER P.D.     | 12 TREASURE ISLAND P.D.    |
| 4 LARGO P.D.          | 13 ST. PETE BEACH P.D.     |
| 5 PINELLAS PARK P.D.  | 14 INDIAN ROCKS BEACH P.D. |
| 6 DUNEDIN P.D.        | 15 BELLEAIR P.D.           |
| 7 MADEIRA BEACH P.D.  | 16 BELLEAIR BEACH P.D.     |
| 8 TARPON SPRINGS P.D. | 17 BELLEAIR BLUFFS P.D.    |
| 9 KENNETH CITY P.D.   | 18 REDINGTON BEACH P.D.    |
|                       | 19 OTHER _____             |

8. \_\_\_\_\_ WAS THIS A WARRANT ARREST?

0 NO                      1 YES

9. \_\_\_\_\_ WHAT WAS MOST SERIOUS CHARGE?

- 1 FELONY
- 2 MISDEMEANOR

10. \_\_\_\_\_ WHAT WAS THE MOST SERIOUS CHARGE?

- |                                    |  |
|------------------------------------|--|
| 1 ARSON                            | 21 KIDNAPPING  |
| 2 ASSAULT                          | 22 LARCENY/THEFT   |
| 3 BRIBERY                          | 23 LIQUOR  |
| 4 BURGLARY                         | 24 MANSLAUGHTER  |
| 5 BURGLARY TOOLS                   | 25 OBSCENITY (I.E., INDECENT EXPOSURE)   |
| 6 COMMERCIAL SEX/<br>PROSTITUTION  | 26 OBSTRUCTING POLICE<br>/RESIST. ARREST   |
| 7 DAMAGE, DESTROY PROPERTY         | 27 PUBLIC PEACE/DISTURBANCE<br>/MISCHIEF/ TRASPASSING/<br>/RECKLESS ENDANGERMENT |
| 8 DRIVING UNDER INFLUENCE          | 28 PICKPOCKET/JOSTLING   |
| 9 DRUG POSSESSION                  | 29 ROBBERY   |
| 10 DRUG SALE                       | 30 SEX ASSAULT/RAPE  |
| 11 EMBEZZLEMENT                    | 31 SEX OFFENSES  |
| 12 EXTORTION, THREAT               | 32 STOLEN PROPERTY   |
| 13 WEAPONS                         | 33 STOLEN VEHICLE  |
| 14 FAMILY OFFENSE                  | 34 UNDER INFLUENCE OF<br>CONTROLLED SUBSTANCE                                    |
| 15 FARE BEATING                    | 35 VIOLATION OF PROBATION/<br>PAROLE/ROR   |
| 16 FLIGHT/ESCAPE<br>/BENCH WARRANT | 36 OTHER<br>(SPECIFY) _____  |
| 17 FORGERY                         |  |
| 18 FRAUD                           |  |
| 20 HOMICIDE                        |  |

## ARRESTEE INFORMED CONSENT

(EXPLAIN SURVEY PURPOSE HERE)

11. \_\_\_\_\_ WAS INTERVIEWER ABLE TO OBTAIN INFORMED CONSENT?

- 1 YES, AGREED
- 2 NO DECLINED
- 3 NOT AVAILABLE (ILL, ASLEEP, TAKEN TO COURT)
- 4 OTHER (SPECIFY REASON) \_\_\_\_\_

## EMPLOYMENT HISTORY

2. \_\_\_ IN WHAT LANGUAGE WAS INTERVIEW CONDUCTED?

- 1 ENGLISH
- 2 SPANISH
- 3 OTHER \_\_\_\_\_

## EDUCATION HISTORY

3. \_\_\_ WHAT IS THE HIGHEST GRADE YOU COMPLETED?

- |             |                              |
|-------------|------------------------------|
| 0 NONE      | 11 HIGH SCHOOL DEGREE OR GED |
| 1 GRADE 1   | 12 COLLEGE 1                 |
| 2 GRADE 2   | 13 COLLEGE 2                 |
| 3 GRADE 3   | 14 ASSOCIATE'S DEGREE        |
| 4 GRADE 4   | 15 COLLEGE 3                 |
| 5 GRADE 5   | 16 COLLEGE DEGREE (BA,BS)    |
| 6 GRADE 6   | 17 COLLEGE 5                 |
| 7 GRADE 7   | 18 COLLEGE 6                 |
| 8 GRADE 8   | 19 MASTER'S DEGREE           |
| 9 GRADE 9   | 20 COLLEGE 7                 |
| 10 GRADE 10 | 21 COLLEGE 8                 |
| 11 GRADE 11 | 22 DOCTORATE DEGREE          |

4. \_\_\_ IF ATTENDED TECHNICAL, TRADE OR VOCATIONAL SCHOOL, HOW MANY MONTHS HAVE YOU COMPLETED?

- |               |                  |
|---------------|------------------|
| 0 NONE        | 4 13-18 MONTHS   |
| 1 1-3 MONTHS  | 5 19-24 MONTHS   |
| 2 4-6 MONTHS  | 6 25-36 MONTHS   |
| 3 7-12 MONTHS | 7 OVER 36 MONTHS |

5. \_\_\_ WHAT IS YOUR CURRENT EDUCATIONAL STATUS?

- 1 CURRENTLY IN HIGH SCHOOL
- 2 CURRENTLY IN COLLEGE
- 3 CURRENTLY IN TRADE/VOCATIONAL SCHOOL
- 4 OTHER EDUCATIONAL
- 5 CURRENTLY NOT ENROLLED

16. \_\_\_ USUAL TRADE OR PROFESSION

- |                            |                       |
|----------------------------|-----------------------|
| 0 NONE                     | 8 LABORER (UNSKILLED) |
| 1 MANAGEMENT               | 9 SERVICE WORKER      |
| 2 PROFESSIONAL             | 10 AGRICULTURAL       |
| 3 TECHNICAL                | 11 STUDENT            |
| 4 SALES                    | 12 HOMEMAKER          |
| 5 OFFICE/CLERICAL          | 13 ARMED FORCES       |
| 6 CRAFTSMAN (SKILLED)      | 14 OTHER              |
| 7 OPERATIVE (SEMI-SKILLED) |                       |

17. \_\_\_ SPECIFY WHETHER EMPLOYED AT USUAL PROFESSION.

- 0 NO      1 YES

18. \_\_\_ CURRENT EMPLOYMENT STATUS

- 1 NOT SEEKING EMPLOYMENT
- 2 UNEMPLOYED (ACTIVELY SEEKING EMPLOYMENT)
- 3 DISABLED (NOT EMPLOYED)
- 4 HOMEMAKER (NOT EMPLOYED)
- 5 STUDENT (NOT EMPLOYED)
- 6 IN SKILL-TRAINING PROGRAM
- 7 EMPLOYED PART-TIME (34 HRS. OR LESS/WEEK)
- 8 EMPLOYED FULL-TIME (35 HRS. OR MORE/WEEK)
- 9 IN JAIL/PRISON
- 10 OTHER \_\_\_\_\_

19. \_\_\_ IF UNEMPLOYED, NUMBER OF MONTHS UNEMPLOYED

- |              |                     |
|--------------|---------------------|
| 1 N/A        | 4 4-6 MONTHS        |
| 2 <1 MONTH   | 5 7-9 MONTHS        |
| 3 1-3 MONTHS | 6 10 MONTHS OR MORE |

20. \_\_\_ NO. OF MONTHS CONTINUOUSLY EMPLOYED.

- |            |                   |
|------------|-------------------|
| N/A        | 4-6 MONTHS        |
| <1 MONTH   | 7-9 MONTHS        |
| 1-3 MONTHS | 10 MONTHS OR MORE |

21. \_\_\_ NO. OF JOBS HELD DURING LAST 12 MONTHS

- |        |                |
|--------|----------------|
| 0 NONE | 3 THREE        |
| 1 ONE  | 4 FOUR         |
| 2 TWO  | 5 FIVE OR MORE |

## MARITAL STATUS AND FAMILY COMPOSITION

### 1. MARITAL STATUS

- |                 |             |
|-----------------|-------------|
| 1 NEVER MARRIED | 4 DIVORCED  |
| 2 MARRIED       | 5 SEPARATED |
| 3 WIDOWED       |             |

### 3. NUMBER OF CHILDREN BORN TO YOU

- |   |           |
|---|-----------|
| 0 | 5         |
| 1 | 6         |
| 2 | 7         |
| 3 | 8 OR MORE |

### 4. NUMBER OF CHILDREN IN YOUR PRIMARY CARE

- |   |           |
|---|-----------|
| 0 | 5         |
| 1 | 6         |
| 2 | 7         |
| 3 | 8 OR MORE |

### 5. NUMBER OF PEOPLE LIVING IN YOUR HOUSEHOLD, INCLUDING YOURSELF

- |   |           |
|---|-----------|
| 0 | 5         |
| 1 | 6         |
| 2 | 7         |
| 3 | 8 OR MORE |

### 6. CURRENT LIVING ARRANGEMENTS (CHECK ALL THAT APPLY)

- |   |  |
|---|--|
| <input type="checkbox"/> 1 ALONE          | <input type="checkbox"/> 6 WITH BOY/GIRLFRIEND |
| <input type="checkbox"/> 2 WITH PARENTS   | <input type="checkbox"/> 7 WITH CHILDREN       |
| <input type="checkbox"/> 3 WITH SPOUSE    | <input type="checkbox"/> 8 INSTITUTIONAL       |
| <input type="checkbox"/> 4 WITH RELATIVES | <input type="checkbox"/> 9 SHELTER             |
| <input type="checkbox"/> 5 WITH FRIENDS   | <input type="checkbox"/> 10 OTHER _____        |

## FINANCIAL INCOME

REMEMBER TO ARRESTEE: INFO IS CONFIDENTIAL)

### 7. SPECIFY LAST YEAR'S CASH INCOME FROM ALL SOURCES (ARRESTEE ONLY)

- |                     |                       |
|---------------------|-----------------------|
| 0 NONE              | 6 \$16,001-\$19,000   |
| 1 LESS THAN \$3,500 | 7 \$19,001-\$25,000   |
| 2 \$3,501-\$7,000   | 8 \$25,001-\$30,000   |
| 3 \$7,001-\$10,000  | 9 \$30,001-\$40,000   |
| 4 \$10,001-\$13,000 | 10 \$40,000 AND ABOVE |
| 5 \$13,001-\$16,000 |                       |

### 28. SPECIFY LAST YEAR'S INCOME (FAMILY)

- |                     |                       |
|---------------------|-----------------------|
| 0 NONE              | 6 \$16,001-\$19,000   |
| 1 LESS THAN \$3,500 | 7 \$19,001-\$25,000   |
| 2 \$3,501-\$7,000   | 8 \$25,001-\$30,000   |
| 3 \$7,001-\$10,000  | 9 \$30,001-\$40,000   |
| 4 \$10,001-\$13,000 | 10 \$40,001 AND ABOVE |
| 5 \$13,001-\$16,000 |                       |

### 29. CURRENT WEEKLY LEGAL SALARY (TAKE HOME PAY LAST MONTH)

- |                  |
|------------------|
| 0 NONE           |
| 1 \$100 OR LESS  |
| 2 \$101-\$200    |
| 3 \$201-\$300    |
| 4 \$301-\$400    |
| 5 \$401-\$500    |
| 6 \$501 AND OVER |

IF EMPLOYED, WHAT IS YOUR HOURLY WAGE? \_\_\_\_\_

### 30. CURRENT WEEKLY INCOME FROM ILLEGAL SOURCES (THIS INFORMATION DOES NOT AFFECT PROSECUTION)

- |                 |
|-----------------|
| 0 NONE          |
| 1 \$100 OR LESS |
| 2 \$101-\$200   |
| 3 \$201-\$300   |
| 4 \$301-\$400   |
| 5 \$401-\$500   |
| 6 \$501-\$600   |

INDICATE SOURCE OF FINANCIAL SUPPORT

### 31. MAIN

### 32. SECONDARY

### 33. OTHER

- |                         |
|-------------------------|
| 1 AFDC                  |
| 2 OTHER PUB. ASSISTANCE |
| 3 WORK                  |
| 4 UNEMPLOYMENT          |
| 5 SPOUSE/OTHER          |
| 6 PARENTS               |
| 7 ILLEGAL               |
| 8 OTHER _____           |

### 34. ILLEGAL SOURCES OF INCOME

- |                              |                 |
|------------------------------|-----------------|
| 0 NONE                       | 6 BURGLARY      |
| 1 DECLINED/REFUSED TO ANSWER | 7 ROBBERY       |
| 2 PROSTITUTION               | 8 FORGERY       |
| 3 SOLICITATION/PIMPING       | 9 LARCENY/THEFT |
| 4 DRUG DEALING               | 10 OTHER _____  |
| 5 FRAUD                      |                 |

**LEGAL HISTORY**

**SPECIFY NUMBERS OF ARRESTS FOR EACH CATEGORY IN LAST 24 MONTHS) (0 = NONE)**

- 5. \_\_\_ ROBBERY
- 6. \_\_\_ AGGRAVATED ASSAULT
- 7. \_\_\_ BREAKING & ENTERING
- 8. \_\_\_ LARCENY
- 9. \_\_\_ WORTHLESS CHECKS
- 0. \_\_\_ STOLEN PROPERTY
- 1. \_\_\_ PROSTITUTION
- 2. \_\_\_ DRUG SALES
- 3. \_\_\_ DRUG POSSESSION
- 4. \_\_\_ DUI
- 5. \_\_\_ OTHER MISDEMEANOR
- 6. \_\_\_ OTHER FELONY

**SPECIFY NUMBERS OF CONVICTIONS FOR EACH CATEGORY**

- 7. \_\_\_ ROBBERY
- 8. \_\_\_ AGGRAVATED ASSAULT
- 9. \_\_\_ BREAKING & ENTERING
- 0. \_\_\_ LARCENY
- 1. \_\_\_ WORTHLESS CHECKS
- 2. \_\_\_ STOLEN PROPERTY
- 3. \_\_\_ PROSTITUTION
- 4. \_\_\_ DRUG SALES
- 5. \_\_\_ DRUG POSSESSION
- 6. \_\_\_ DUI
- 7. \_\_\_ OTHER MISDEMEANOR
- 8. \_\_\_ OTHER FELONY

**59. \_\_\_ IN THE LAST 24 MONTHS, HOW MUCH TIME HAVE YOU SPENT IN JAIL AND/OR PRISON?**

- 0 NONE
- 1 < 1 MONTH
- 2 1-3 MONTHS
- 3 4-6 MONTHS
- 4 7-9 MONTHS
- 5 10-12 MONTHS
- 6 13-24 MONTHS

**60. \_\_\_ IN THE PAST 24 MONTHS, HOW MUCH TIME HAVE YOU SPENT UNDER PROBATION, PAROLE OR OTHER COURT STIPULATIONS?**

- 0 NONE
- 1 < 1 MONTH
- 2 1-3 MONTHS
- 3 4-6 MONTHS
- 4 7-9 MONTHS
- 5 10-12 MONTHS
- 6 13-24 MONTHS

**61. \_\_\_ WHAT WAS YOUR LEGAL STATUS PRIOR TO YOUR PRESENT ARREST?**

- 1 LEGALLY FREE
- 2 OUT ON BAIL
- 3 ROR
- 4 PROBATION
- 5 PAROLE
- 6 CIVIL COMMITMENT
- 7 WORK RELEASE
- 8 ESCAPED FUGITIVE
- 9 OTHER \_\_\_\_\_

**DRUG USE HISTORY**

62. \_\_\_\_\_ HAVE YOU EVER TRIED ALCOHOL, DRUGS, OR INHALED ANY SUBSTANCES ?

0 NEVER TRIED                      1 TRIED

DRUG LIST	INDICATE (✓) WHICH OF THE FOLLOWING DRUGS YOU HAVE EVER USED.	HOW OLD WERE YOU WHEN YOU FIRST TRIED THESE DRUGS ? (AGE)	OF THE DRUGS USED, WHICH HAVE YOU TAKEN IN THE LAST 48 HRS.?	DRUG USE IN LAST 30 DAYS.	DRUG USE IN LAST 60 DAYS.
63. ALCOHOL	_____	_____	_____	_____	_____
64. MARIJUANA/HASHISH	_____	_____	_____	_____	_____
65. BLACK TAR HEROIN	_____	_____	_____	_____	_____
66. HEROIN	_____	_____	_____	_____	_____
67. COCAINE (NOT CRACK)	_____	_____	_____	_____	_____
68. CRACK	_____	_____	_____	_____	_____
69. PCP	_____	_____	_____	_____	_____
70. CRYSTAL METH	_____	_____	_____	_____	_____
71. ICE	_____	_____	_____	_____	_____
72. DOWNERS	_____	_____	_____	_____	_____
73. VALIUM	_____	_____	_____	_____	_____
74. QUAALUDES	_____	_____	_____	_____	_____
75. PCP	_____	_____	_____	_____	_____
76. AMPHETAMINES	_____	_____	_____	_____	_____
77. INHALANTS ( GLUE, GAS)	_____	_____	_____	_____	_____
78. DESIGNER DRUGS	_____	_____	_____	_____	_____
79. OTHER _____	_____	_____	_____	_____	_____

80. \_\_\_\_\_ ARE THERE ANY OTHER DRUGS THAT YOU USE TO GET HIGH?

0 NO                      1 YES

IF YES, WHICH ONES \_\_\_\_\_

81. \_\_\_\_\_ HAVE YOU EVER INJECTED DRUGS?

0 NO                      1 YES

**IF YES, CONTINUE. IF NO, GO TO QUESTION 90.**

WHICH OF THE FOLLOWING HAVE YOU EVER INJECTED?

- 82. \_\_\_\_\_ HEROIN
- 83. \_\_\_\_\_ COCAINE
- 84. \_\_\_\_\_ AMPHETAMINES
- 85. \_\_\_\_\_ OTHER \_\_\_\_\_

86. \_\_\_\_\_ HAVE YOU INJECTED ANY DRUG IN THE LAST SIX MONTHS?

0 NO                      1 YES

87. \_\_\_\_\_ HAVE YOU EVER SHARED NEEDLES OR "WORKS" SUCH AS SPOONS OR WATER?

0 NO                      1 YES

COMMENTS \_\_\_\_\_

**IF NO, GO TO QUESTION 90**

88. \_\_\_\_\_ HOW OFTEN DO YOU SHARE YOUR "WORKS"/NEEDLES?

- 0 NEVER
- 1 USED TO, BUT DON'T ANYMORE
- 2 SOME OF THE TIME
- 3 MOST/ALL OF THE TIME

COMMENTS \_\_\_\_\_

9. \_\_\_ HAS THE PROBLEM WITH AIDS CAUSED YOU TO CHANGE YOUR SHARING OF NEEDLES/"WORKS"?

0 NO            1 YES

U. \_\_\_ HAVE YOU EVER USED COCAINE IN ANY FORM?

0 NO            1 YES

I. \_\_\_ HAVE YOU EVER SMOKED CRACK?

0 NO            1 YES

IF YES, CONTINUE. IF NO, SKIP NEXT QUESTION.

Z. \_\_\_ WHAT IS YOUR PREFERRED METHOD FOR USING COCAINE?

- 1 SNORT COCAINE
- 2 FREEBASE COCAINE
- 3 SMOKE COCAINE, NOT CRACK
- 4 SMOKE CRACK
- 5 INJECT COCAINE ONLY

IF YES TO COCAINE QUESTIONS, GO TO CRACK SUPPLEMENT.

### TREATMENT HISTORY

HOW MANY TIMES HAVE YOU BEEN ADMITTED TO THE FOLLOWING PROGRAMS IN YOUR LIFETIME (INCLUDING HOSPITALIZATION)?

0 NEVER

3. \_\_\_ DRUG/ALCOHOL ABUSE PROGRAM

\_\_\_ MENTAL HEALTH PROGRAM

\_\_\_ ARE YOU CURRENTLY ENROLLED IN A DRUG/ALCOHOL PROGRAM?

0 NO            1 YES

96. \_\_\_ ARE YOU CURRENTLY ENROLLED IN A MENTAL HEALTH PROGRAM?

0 NO            1 YES

97. \_\_\_ DO YOU FEEL THAT YOU COULD USE TREATMENT FOR DRUG OR ALCOHOL ABUSE?

- 0 NO
- 1 YES, DRUG ONLY
- 2 YES, ALCOHOL ONLY
- 3 YES, DRUG AND ALCOHOL

98. \_\_\_ DO YOU FEEL THAT YOU COULD USE TREATMENT FOR A MENTAL HEALTH PROBLEM?

0 NO            1 YES

IF YES TO ABOVE, GIVE REFERRAL INFORMATION.

### STD RISK ASSESSMENT

READ ALOUD: THE FOLLOWING QUESTIONS ARE VERY PERSONAL BUT VERY IMPORTANT TO RESEARCH. REMEMBER, ALL YOUR ANSWERS ARE CONFIDENTIAL.

99. \_\_\_ HOW MANY PERSONS OF EITHER GENDER HAVE YOU HAD SEX WITH IN THE PAST YEAR?

- 0 NONE
- 1 1-3 PERSONS
- 2 4-5 PERSONS
- 3 5-10 PERSONS
- 4 11 OR MORE PERSONS

HAVE YOU EVER HAD SEX WITH ANY OF THE FOLLOWING?

- 100. \_\_\_ PERSON OF SAME SEX
- 101. \_\_\_ PERSON WHO HAS "SHOT" DRUGS
- 102. \_\_\_ PERSON WHO HAS BEEN A PROSTITUTE
- 103. \_\_\_ PERSON WITH AIDS
- 104. \_\_\_ PERSON WHO HAS HAD SEX WITH A HOMOSEXUAL(S)
- 105. \_\_\_ PERSON WHO HAS HAD SEX WITH PROSTITUTES

06. **HAVE YOU EVER ENGAGED IN PROSTITUTION?**

- 0 NO
- 1 YES, WITH OPPOSITE SEX PARTNERS
- 2 YES, WITH SAME SEX PARTNERS

07. **HAVE YOU PARTICIPATED IN ANAL INTERCOURSE IN THE LAST 5 YEARS?**

- 0 NO
- 1 YES

08. **HAVE YOU USED ANY PRESCRIBED OR OVER THE COUNTER DRUG IN THE LAST 48 HOURS WITH OR WITHOUT A PRESCRIPTION?**

- 0 NO
- 1 YES

09. **ARE YOU CURRENTLY TAKING ANY KIND OF MEDICINES ?**

- 0 NO
- 1 YES (SPECIFY)

---

---

10. **ARE YOU AWARE OF ANY NEW DRUGS BEING USED ON THE STREET?**

- 1 NO
- 2 YES (SPECIFY) \_\_\_\_\_

---

1. Wave Identification \_\_\_ 2. Year \_\_\_ 3. ID Number \_\_\_\_\_

4. How much crack do you consume on a weekly basis? (AMTUSE)

4a.

1. \_\_\_\_\_ "rocks" per week
2. \_\_\_\_\_ "eightballs" per week
3. \_\_\_\_\_ "ounces" per week (include fractional ozs.)
4. \_\_\_\_\_ Other (specify units, size of units, and clarifying information)

4b. How much do you spend weekly on crack? \_\_\_\_\_

Comments

5. Under what circumstances did you usually purchase crack? (HOWPUR)

- |                                       |              |
|---------------------------------------|--------------|
| 1. Dope House                         | 5. 1 and 3   |
| 2. Streetcorner, Open Air             | 6. 2 and 3   |
| 3. Touter, Copman, other intermediary | 7. 1, 2, & 3 |
| 4. 1 and 2                            | 8. Other     |

Comments

6. How did you generally pay for your crack? How did you raise the money? (HOWPAY)

1. regular job/wages (legally earned)
2. borrowed money from friends or relatives
3. money acquired through property or vice crime (e.g. shoplifting, prostitution) or drug sales.
4. money acquired through violent crime (e.g. robbery, extortion).

- |          |          |          |              |
|----------|----------|----------|--------------|
| 5. 1 & 2 | 6. 1 & 3 | 7. 2 & 3 | 8. 1, 2, & 3 |
|----------|----------|----------|--------------|

9. Other (specify in Comments)

Comments

7. Did you sell drugs? (SELLER) 1. Yes 2. No

8. For about how long a period of time? \_\_\_\_\_ (in month or years, specify) (DLRTIME)

Comments

9. What kind of dealer would you call yourself based on the following list? (TYPESLR)

1. User/Dealer (sold primarily to support their own use)

2. Profit Dealer (sold primarily to make money: abstain from crack, uses other drugs moderately or not at all)

3. Touter/Copman (primarily "hustles" small quantities of drugs by sales activity: often "paid" for service by sharing in the drug)

4. 1 & 2 (a person who has cycled through both statuses)

5. Other (Specify combination in Comments)

Comments

10. Do you "manufacture" (prepare) your own crack from granular cocaine? (CRKPREP)

1. Yes      2. No

11. What method or methods do you know to prepare crack? (HOWPREP)

1. Baking Soda

2. Ammonia

3. Bleach

4. Other (Specify in Comments)

Comments (Transcribe "formulas" or "recipes" for crack techniques)

12. Which method is your preferred one? \_\_\_ (enter 1 through 4)

13. What terms are you familiar with that people use to refer to crack?

**APPENDIX C**



**EVERETT S. RICE**  
**SHERIFF**  
**PINELLAS COUNTY, FLORIDA**

January 3, 1990

Mrs. Shirley D. Coletti  
OPERATION PAR, INCORPORATED  
10901-C Roosevelt Boulevard  
Suite 1000  
St. Petersburg, Florida 33716

Dear Mrs. Coletti:

The Pinellas County Sheriff's Office enthusiastically supports Operation PAR's application to the National Institute of Justice for funding to compare hair analysis with urinalysis and DUF self-reports.

Through the coordinated efforts of Operation PAR, Professor Tom Mieczkowski of the University of South Florida, and the Pinellas County Sheriff's Office, the Drug Use Forecasting program has been replicated in Pinellas County with local funds.

The results of this study will be utilized in the formulation of future decisions in Pinellas County for both the justice system and the drug treatment policy makers. The approaches taken and decisions made would be greatly enhanced by having at hand the results of comparative correlations between drug use self-reports, urinalysis and hair analysis.

As in the past, please be assured of the cooperation of the Pinellas County Sheriff's Office in this endeavor. Our staff stands ready to coordinate its efforts with Operation PAR and assist in any way possible.

Sincerely,

A handwritten signature in cursive script that reads 'Everett S. Rice'.

EVERETT S. RICE, Sheriff  
Pinellas County

ESR:KVC:bkb

# Putting a strop to drugs

## Newest test can detect drug use from months ago

By **BILL ADAIR**  
Times Staff Writer

The newest drug-detecting tool may be lying in your bathroom sink.

Hair.

A California company has started using a few snips of hair and some chemicals to determine whether people have taken drugs.

"As hair grows out of the head it's acting like a tape recorder," said Lawrence Kaufman, president of Psychemedics, which analyzes employee hair for 200 companies and hospitals.

"It's one of the few samples you can get from the body that has information locked in from the past."

Kaufman said hair tests are less intrusive and provide a longer history than those analyzing urine. Urinalysis — the most common method for drug tests — can only detect drugs taken within a few days to a week.

But hair never forgets.

Because hair grows about half an inch every month, some researchers say it can reveal drugs taken months earlier. Tests on people with waist-length hair can detect drugs they took five years ago.

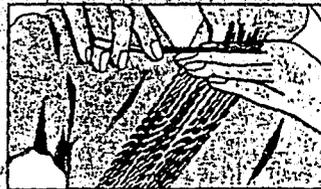
Thus, some companies and governments are switching to hair tests.

Locally, the Pinellas County Sheriff's Department is asking jail inmates to give anonymous hair samples that the department will analyze if it can get a federal grant to pay for it.

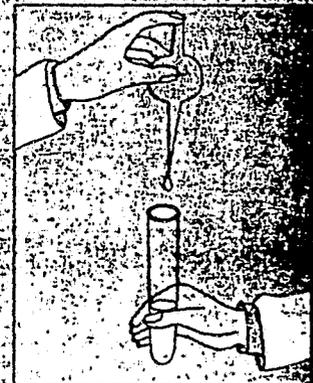
Kaufman said Psychemedics is the only com-

Please see **DRUGS 6B**

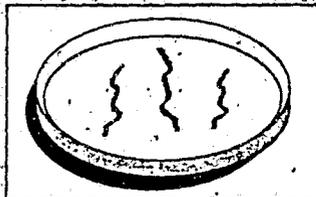
## Testing hair for drugs



**1** 50 to 60 hairs are cut from the head, usually about 1-1/2 inches long.



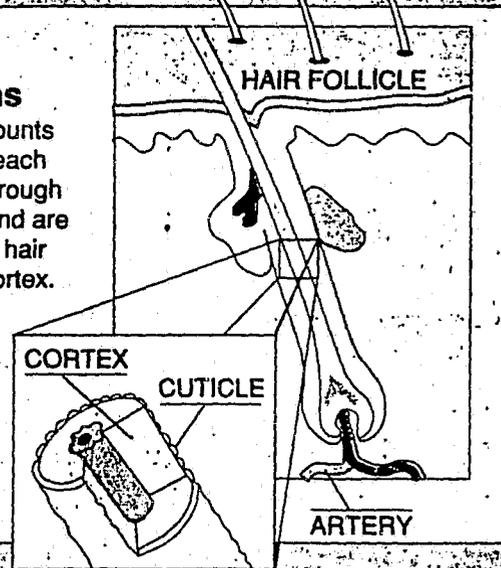
**3** The liquid is tested for drug molecules in the same way urine is tested.



**2** Hair is liquefied by a chemical process.

### How it happens

Trace amounts of drugs reach the hair through arteries, and are trapped in hair follicle's cortex.



Sources: *The World Book Encyclopedia*, Psychemedics Corp.

Times art — ANNE HAND

## Drugs from 1B

pany in the nation hired to test employee hair for drugs. Another company, PoisonLab in San Diego, has experimented with hair tests but has not tried to market them.

Civil liberties groups are wary. They contend that on-the-job hair tests invade privacy as much as urine samples.

"In a way, it's even more objectionable than urine testing because you can go farther back," said Loren Siegel, deputy director of public education for the American Civil Liberties Union in New York. "Why should a person who may have smoked marijuana three or four years ago not be able to get a job today?"

Yet many employees don't mind losing a little hair to prove they don't use drugs.

Paul Lyman, a limousine driver for Caesars Tahoe hotel and casino in Lake Tahoe, Nev., considers urine tests to be an invasion of his privacy. But Lyman didn't complain when the hotel's nurse snipped some hair from his balding head and mailed it to a Psychomedics lab.

The lab analyzed it for traces of cocaine, PCP, marijuana and other drugs. His test was clean.

"I was all for it," Lyman said. "With the job that we have, we can't have people on drugs."

Hair tests carry a higher price tag — about \$50 for a standard five-drug test — than urine tests, which usually cost \$20 to \$40, depending on how many drugs are measured. Because of the price, the North Miami Beach Police Department this week delayed its plan to use hair tests for pre-employment screening. But a department spokesman said the tests are "definitely something we want to look into."

Kaufman said it is worth the extra money because the test provides more of a drug history and it doesn't require the humiliation of a urine sample.

"Would you like to be watched urinating? A lot of people don't like it," he said.

Hair tests have been used for years for analyzing human exposure to lead, but Psychomedics is trying to use them for routine employee drug tests.

"Radioimmunoassay of hair" (RIAH, or HAIR spelled backwards) is based on medical research that shows drug molecules circulate in the bloodstream and become permanently embedded inside individual hairs.

Psychomedics, which does more than 1,000 RIAH tests a month and is seeking a patent for its procedure, requires that a hair sample an inch and a half long be cut and sealed in an envelope. The hair is taken from the back of the head because there usually is plenty there — even on balding men.

Employees must sign a statement verifying the sample is their hair. The tamper-proof envelope is then mailed to the company's laboratory in Santa Monica, Calif., where technicians clean the hair and use chemicals to dissolve it into a liquid.

The liquid hair is tested in the same way as a urine sample. Chemical antibodies and a radioactive drug are added, and the mixture is measured for radioactivity.

Any positive indications of drugs can be confirmed by a second, more expensive, procedure that matches the hair-test results with the molecular fingerprint of a drug.

If researchers want to find a history of drug use, they can take long hairs and divide them into half-inch segments, each representing one month. The segments can be analyzed individually and can allow researchers to create a graph showing patterns of drug use.

But Kaufman said Psychomedics usually doesn't test beyond 90 days because "women have longer hair than men. And the further you go back in somebody's history, the more it's considered an invasion of privacy."

Repeated shampooing won't remove the drugs because the molecules become embed-

ded inside, he said. Although bleaching or coloring hair can reduce drug levels, the drugs can still be detected.

Psychomedics says hair testing has been validated by at least 25 studies.

But the federal government is still skeptical. Government researchers say hair testing looks promising but needs more research.

**Researchers have not agreed on proper thresholds for measuring drugs in hair, and it may be possible to have false results on people who have stood in a room filled with marijuana smoke.**

"It's a new science," said Dr. Edward J. Cone, who oversees drug-testing research at the federal Addiction Research Center in Baltimore. "I still consider it to be somewhat premature."

Cone said the government's initial research has confirmed some of the company's claims. But he said researchers have not agreed on proper thresholds for measuring drugs in hair and that it may be possible to have false results on people who have stood in a room filled with marijuana smoke.

Federal approval is "years away," he said.

Tom Mieczkowski, a professor of criminology at the University of South Florida's St. Petersburg campus, said, "I'm not sure what the future holds for it. There are a lot of questions yet to be answered about the process. The amount of research has been limited."

But hair testing has won praise from some business and labor leaders, who say it is a more civilized and accurate drug-testing method than urinalysis.

"It's an accurate test," said Gene Up-

shaw, president of the National League Players Association. "It's history."

At Caesars Tahoe, all new employees in high security and transportation must submit to the tests. Larry A. Wolf, president of the casino, said several hundred of the 2,000 employees have been tested.

"They know if they ever use drugs, we will find out," he said.

Wolf also required top management to include himself — to submit to the tests. "Our effort is to help the employees," he said.

The Pinellas County Sheriff's Department last week began asking inmates for felonies, prostitution and drug offenses as a condition of parole. The influence to give voluntary urine samples for drug tests.

The Sheriff's Department with Operation PAR, a St. Petersburg treatment group, to apply for federal grants for treatment.

"If it proves as good as urine tests, it can be a fantastic tool for criminal justice," said Kathy Corr, the Sheriff's Department's grant coordinator.

But civil libertarians aren't convinced. Siegel said the ACLU opposes any random or pre-employment testing.

"In the current war on drugs, we have become willing to support very aggressive, Draconian measures," she said.

Mieczkowski of USF said the affect hairstyles — especially for men — took drugs several years ago.

"Short hair will come into fashion," he said.

Siegel went even further. "It becomes a big thing, baldness will be in fashion."

But Psychomedics has an answer. They say they can test hair from the body — arms, legs or even hair on the head and get the same results.

**APPENDIX D**

SB



**JAMES T. RUSSELL**  
STATE ATTORNEY

POST OFFICE BOX  
5028  
**CLEARWATER, FLORIDA**  
34618  
TELEPHONE (813) 530-6221

OFFICE OF  
**STATE ATTORNEY**  
SIXTH JUDICIAL CIRCUIT OF FLORIDA,  
IN AND FOR PINELLAS AND PASCO COUNTIES

IN REPLYING  
PLEASE REFER TO:

December 5, 1989

Participants,  
Pinellas County Drug  
Use Forecasting Project

Dear Participant:

The program that you are being asked to participate in is solely for the purpose of aiding Pinellas County in the gathering of information to help in the planning of various responses to the substance abuse problem facing our community.

The information and test results that are required by the program and gathered by the individuals that are conducting the project, will not be used against you in the prosecution of the crime for which you have been arrested, should there be a prosecution; nor, will it be used for any other reason.

Your responses and test results will be grouped with all of the responses and test results of all participants. Your anonymity will be insured by the techniques that are to be utilized by the individuals collecting the information. The Sheriff has promised that he will not divulge any information that could be linked to any individual volunteer participant.

Sincerely,

James T. Russell  
State Attorney

RECEIVED  
OPERATION PAR  
INC.  
DEC 11 1989

**APPENDIX E**

Introduction to TDx  
Abused Drug Assays

The TDx analyzer assay menu is designed to support the testing needs of the hospital and laboratory including TDM, Clinical Chemistry, Toxicology and Abused Drug assays in urine.

Abused Drug Testing

The TDx Abused Drug assays provide a reliable means for detection of abused drugs and metabolites in urine. The utility of urine drug testing is obvious in the emergency room/overdose situation. Urine drug testing is also frequently used in other applications, including pre-employment screening, monitoring of employees and routine screening of military personnel, persons in probation programs and persons enrolled in drug abuse rehabilitation programs.

Abused drug assays performed on urine samples differ from serum and blood monitoring in the intent of testing and in the interpretation of results. For these reasons, the TDx Abused Drug assays have been designed with performance characteristics that will provide the information required of urine drug testing. In addition, several features have been incorporated into the TDx analyzer to enhance the utility of TDx Abused Drug assays in urine drug testing.

In reporting results from abused drug testing, laboratorians and their clients should be aware of the psychological, social, economic and legal implications and potential liabilities associated with the reporting or mismanagement of incorrect results. Documented procedures should be established and maintained to insure that, before a result is reported as positive, corroborating evidence exists to support that result or, in the absence of confirmation, the result is identified as being an "unconfirmed" result. Confirmation should be by an equally sensitive and specific methodology using a different chemical principle (1-5). In addition, any analysis should be performed in the context of a comprehensive quality assurance program, including but not limited to appropriate sample handling procedures, training for operators, adherence to assay procedures, QC records, participation in proficiency programs and confirmation of results.

**Specificity**

By use of selectively cross-reactive antibodies, the TDx Abused Drug assays detect the parent drugs and/or major metabolites within each class of drugs. A class of drugs is defined as a group of drugs with related chemical structures. The cross-reactivity for each assay was tested with compounds whose chemical structures could potentially be detected by the assay. For cross-reactivity of a particular assay, refer to the Specificity section in the appropriate assay insert.

**Sensitivity**

Sensitivity is defined as the lowest measurable concentration which can be distinguished from zero with 95% confidence. Results for the TDx Abused Drug assays must not be reported below their sensitivity. For sensitivity of a particular assay, refer to the Sensitivity section in the assay insert.

**Threshold**

The threshold, which is specific for each TDx Abused Drug assay, is defined as the assay concentration which indicates the presence or absence of drug(s) and/or metabolites in the urine being tested. The TDx analyzer has been factory set at a commonly used threshold specific for each TDx Abused Drug assay. Selection of the threshold value should be based upon review of the laboratory's and their clients' needs, sensitivity of available confirmation methods and the sensitivity and cross-reactivity data of the assay itself.

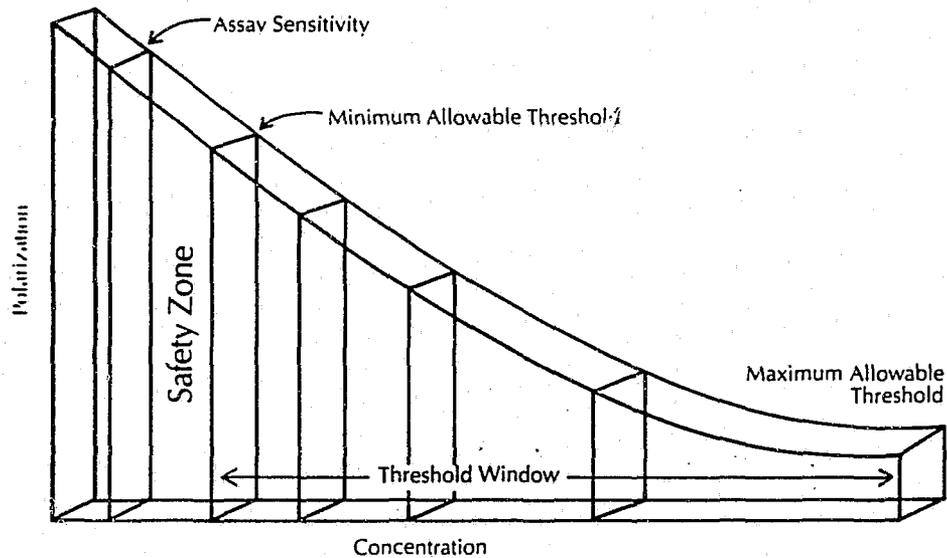
To change the threshold, edit assay parameter XX.4 (HILIM or THRSILD - depending on the TDx software revision in use). The threshold selected will print on the data tape above the results (see A in Figures 1 and 5).

For the factory set threshold of a particular assay, refer to the Summary and Explanation of Test section in the appropriate TDx Abused Drug assay insert.

# TDx FEATURES = CONVENIENCE,

## ADJUSTABLE THRESHOLD PROVIDES A FLEXIBLE ALTERNATIVE TO THE FIXED CUTOFF

- TDx abused drug detection assays utilize a stored 6-point calibration curve.
- Threshold is selected by simple keypad entry, eliminating costly recalibration that requires additional reagents.
- Detection thresholds can be set anywhere between a preprogrammed minimum and highest calibrator to meet specific testing needs.
- Preset Minimum Allowable Threshold (MAT) ensures that a substantial Safety Zone always exists between the assay sensitivity and any selected threshold.

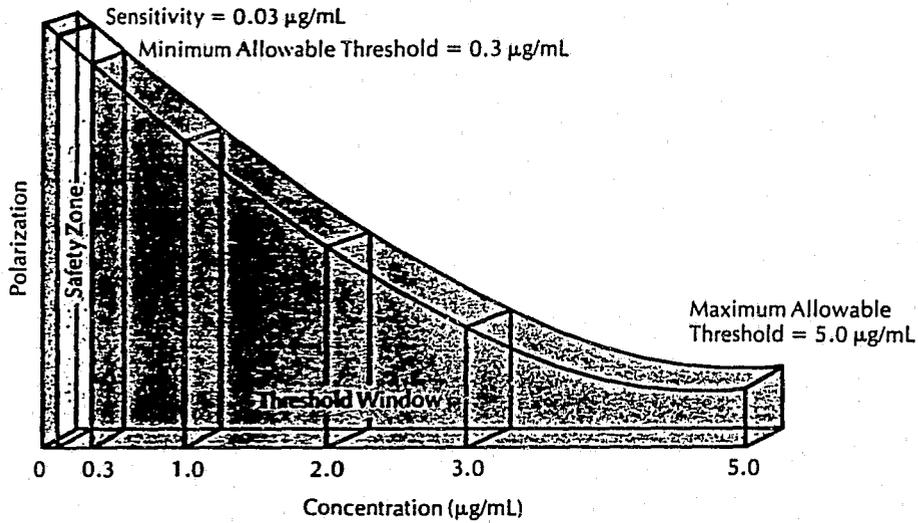


## TDx SYSTEM ASSURES ECONOMY AND EASE OF USE

- Three-step procedure simplifies testing.
- Built-in QC and procedural checks increase user confidence by ensuring reliability of the results.
- Walk-away operation maximizes productivity.
- Extended curve stability expedites patient results and eliminates costly recalibration.



# ADJUSTABLE THRESHOLD ALLOWS DETECTION CONCENTRATION TO BE SET ANYWHERE BETWEEN 0.3 AND 5.0 $\mu\text{g}/\text{mL}$



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## EXCELLENT CORRELATION WITH OTHER METHODS

The TDx Cocaine Metabolite assay was compared to other methods for detection of benzoylecgonine by assaying drug-free urine specimens and urine specimens containing benzoylecgonine. Representative data from these studies is shown below.

---

Accuracy by Correlation  
with Reference Assays

The TDx Cocaine Metabolite assay was compared to GC/MS for detection of benzoylecgonine by assaying drug-free urine samples and urine samples containing benzoylecgonine. Representative data are shown below.

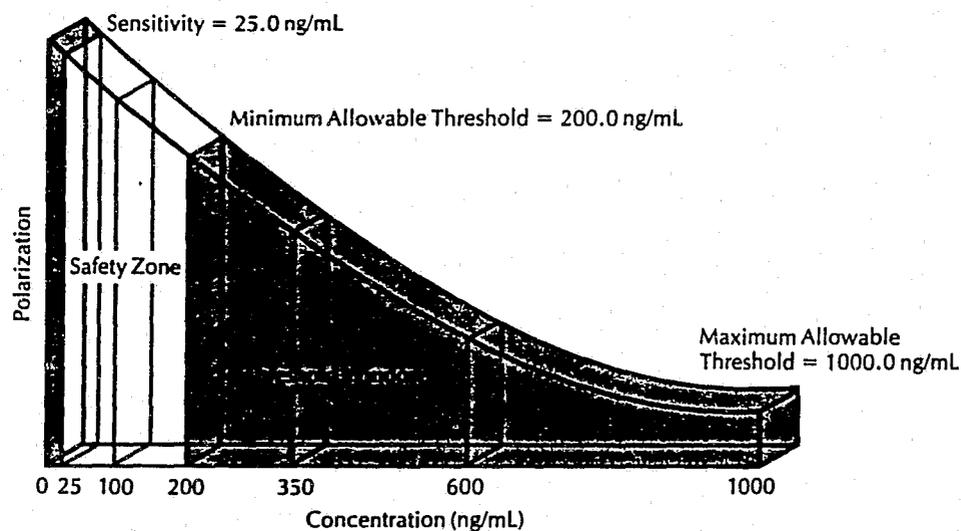
<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>GC/MS POS/NEG</u>
≥ 0.30 ug/mL by TDx	89	89/0	89/0
< 0.30 ug/mL by TDx	25	0/25	*1/4 20 NT

	<u>TDx (ug/mL)</u>	<u>GC/MS (ug/mL)</u>
*	0.22	0.24

NT = Not Tested.

- TDx "Positive" = Concentration greater than or equal to the threshold, 0.30 ug/mL ( of benzoylecgonine.
- GC/MS "Positive" = Concentration greater than or equal to 0.2 ug/mL of benzoylecgonine.

## ADJUSTABLE THRESHOLD ALLOWS DETECTION TO BE SET ANYWHERE BETWEEN 200 AND 1000 ng/mL



## EXCELLENT CORRELATION WITH OTHER METHODS

The TDx Opiates assay was compared to other methods for detection of opiates by assaying drug-free urine specimens and urine specimens containing opiates. Representative data from these studies is shown below.

Accuracy by Correlation with Reference Assays

The TDx Opiates assay was compared to other methods for detection of opiates by assaying drug-free urine samples and urine samples containing opiates and metabolites. Representative data are shown below.

<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>EMIT® d.a.u.™ POS/NEG</u>	<u>RIA POS/NEG</u>	<u>GC/MS POS/NEG</u>	<u>GC/NPD POS/NEG</u>
<u>SITE 1</u>						
≥ 200.00 ng/mL by TDx	119	119/0	NT	118/1*	118/1**	NT
< 200.00 ng/mL by TDx	104	0/104	NT	0/104	***5/0 99 NT	NT
<u>SITE 2</u>						
≥ 200.00 ng/mL by TDx	112	112/0	112/0	NT	NT	112/0
< 200.00 ng/mL by TDx	87	0/87	0/87	NT	NT	NT

NT = Not Tested.

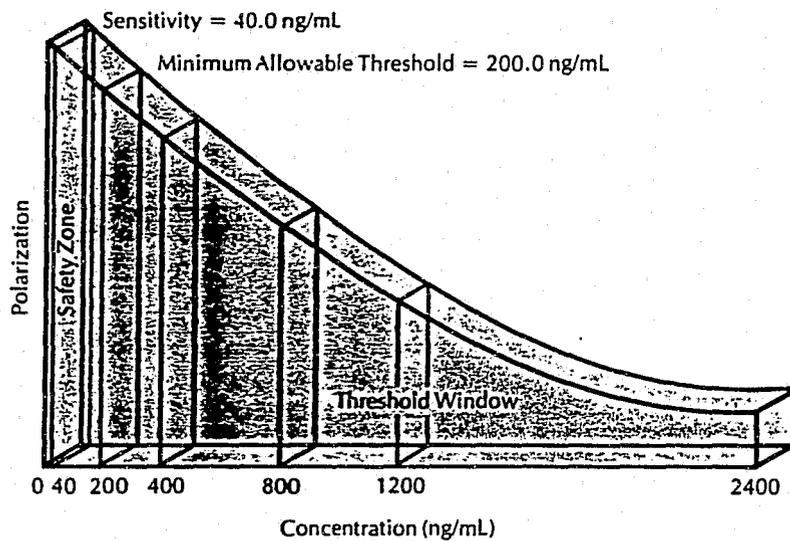
NPD = Nitrogen Phosphorus Detector.

<u>SAMPLE</u>	<u>TDx (ng/mL)</u>	<u>RIA (ng/mL)</u>	<u>GC COMPOUND IDENTIFIED</u>
* 1	370.61	<50	oxycodone
** 2	390.69	>50	none ‡
*** 3	185.07	<50	oxycodone
4	195.79	<50	oxycodone
5	133.73	<50	codeine
6	133.13	<50	codeine
7	131.45	<50	hydromorphone

‡In-house testing showed meperidine present.

- TDx "Positive" = Concentration greater than or equal to the threshold, 200.00 ng/mL of morphine.
- EMIT "Positive" = Absorbance rate greater than or equal to the Low Calibrator, 300.0 ng/mL of morphine.
- RIA "Positive" = Counts per minute greater than or equal to the Positive Reference Standard, 50.0 ng/mL of morphine.
- GC/MS "Positive" = Concentration greater than or equal to the calibrator targeted to be 20.0 ng/mL of morphine.
- GC/NPD "Positive" = Concentration greater than or equal to the calibrator targeted to be 200.0 ng/mL of morphine.

# ADJUSTABLE THRESHOLD ALLOWS DETECTION TO BE SET ANYWHERE BETWEEN 200 AND 2400 ng/mL



---

## EXCELLENT CORRELATION WITH OTHER METHODS

The TDx Benzodiazepines assay was compared to other methods for detection of benzodiazepines by assaying drug-free urine specimens and urine specimens containing benzodiazepines. Representative data from these studies is shown below.

Accuracy by Recovery

Two sets of calibrators were prepared by adding known quantities of nordiazepam to human urine and X SYSTEMS Dilution Buffer to levels of 200, 300, 400, 800, 1000 and 1200 ng/mL. The TDx analyzer was calibrated with urine calibrators and both sets of calibrators were assayed relative to this calibration. Percent recovery = 100 X (measured concentration in buffer divided by measured concentration in urine). Representative data are shown below.

<u>Target Concentration (ng/mL)</u>	<u>Concentration in Buffer (ng/mL)</u>	<u>Concentration in Urine (ng/mL)</u>	<u>% Recovery</u>
200	208.8	213.7	97.7
300	295.4	308.4	95.8
400	417.7	415.4	100.6
800	806.1	791.4	101.9
1000	1000.7	1014.2	98.7
1200	1217.8	1218.2	100.0

Average Recovery: 99.1 ± 2.2%

Accuracy by Correlation with Reference Assays

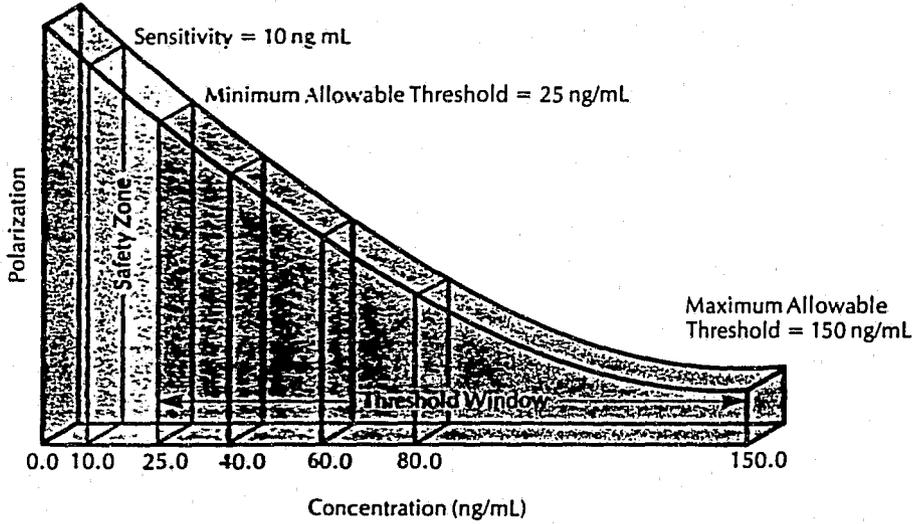
The TDx Benzodiazepines assay was compared to other methods for detection of benzodiazepines and metabolites by assaying drug-free urine samples and urine samples containing benzodiazepines. Representative data are shown below.

<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>EMIT® d.a.u.™ POS/NEG</u>	<u>GC POS/NEG</u>
≥ 200.00 ng/mL by TDx	209	209/0	207/2	209/0
< 200.00 ng/mL by TDx	206	0/206	*1/205	*1/0 205 NT
	<u>TDx (ng/mL)</u>	<u>EMIT POS/NEG</u>	<u>GC POS/NEG</u>	
*	177.40	POS	POS	

NT = Not Tested.

- TDx "Positive" = Concentration greater than or equal to the threshold, 200.00 ng/mL of nordiazepam.
- EMIT "Positive" = Absorbance rate greater than or equal to the Low Calibrator, 300 ng/mL of oxazepam.
- GC "Positive" = Identification of benzodiazepines, benzodiazepine metabolites, benzophenones by GC or GC/MS.

# ADJUSTABLE THRESHOLD ALLOWS DETECTION CONCENTRATION TO BE SET ANYWHERE BETWEEN 25 AND 150 ng/mL



---

## EXCELLENT CORRELATION WITH OTHER METHODS

The TDx Cannabinoids assay was compared to other methods for detection of cannabinoids by assaying drug-free urine specimens and urine specimens containing cannabinoids. Representative data from these studies are shown below.

---

Accuracy by Correlation  
with Reference Assays

The TDx Cannabinoids assay was compared to other methods for detection of cannabinoids by assaying drug-free urine samples and urine samples containing cannabinoids. Representative data are shown below.

SITE 1

<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>RIA POS/NEG</u>	<u>GC/MS POS/NEG</u>
≥ 25.00 ng/mL by TDx	160	160/0	160/0	160/0
< 25.00 ng/mL by TDx	102	0/102	2/100	*2/0 100 NT

<u>SAMPLE</u>	<u>TDx (ng/mL)</u>	<u>RIA POS/NEG</u>	<u>GC/MS POS/NEG</u>
* 1	23.79	POS	POS
2	24.83	POS	POS

NT = Not Tested.

- TDx "Positive" = Concentration greater than or equal to the threshold, 25.00 ng/mL of 11-nor-delta-8-THC-9-carboxylic acid.
- RIA "Positive" = Counts per minute less than or equal to the Positive Reference Standard, 25 ng/mL of 11-nor-delta-9-THC-9-carboxylic acid.
- GC/MS "Positive" = Concentration greater than or equal to the calibrator targeted to be 2 ng/mL of 11-nor-delta-9-THC-9-carboxylic acid.

SITE 2

<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>EMIT® d.a.u.™ POS/NEG</u>	<u>GC/MS POS/NEG</u>
≥ 25.00 ng/mL by TDx	143	143/0	59/84	143/0
< 25.00 ng/mL by TDx	102	0/102	0/102	*3/0 99 NT

NT = Not Tested.

\* Samples previously designated as positive by another site were analyzed concurrently by TDx, EMIT and GC/MS at Site 2. Three of the presumed positive samples were positive by GC/MS (>4 ng/mL), but negative by EMIT (<100 ng/mL). The TDx results for these samples were greater than the assay's sensitivity (10.00 ng/mL) but less than the TDx assay threshold (25.00 ng/mL). The results are listed below:

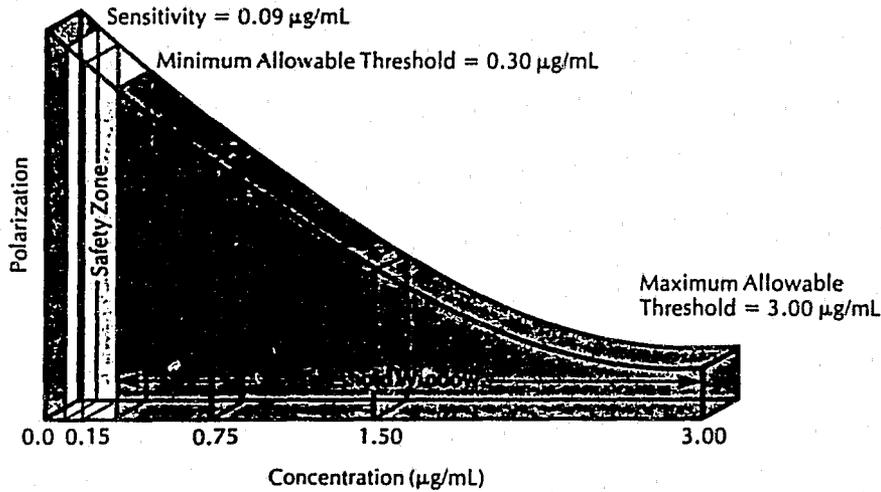
<u>SAMPLE</u>	<u>TDx (ng/mL)</u>	<u>EMIT POS/NEG</u>	<u>GC/MS POS/NEG (ng/mL)</u>
* 1	24.68	NEG	POS 14
2	24.97	NEG	POS 8
3	10.46	NEG	POS 6

TDx "Positive" = Concentration greater than or equal to the threshold, 25.00 ng/mL of 11-nor-delta-8-THC-9-carboxylic acid.

EMIT "Positive" = Absorbance rate greater than or equal to the Low Calibrator, 100 ng/mL of 11-nor-delta-8-THC-9-carboxylic acid.

GC/MS "Positive" = Concentration greater than or equal to 4 ng/mL of 11-nor-delta-9-THC-9-carboxylic acid.

# ADJUSTABLE THRESHOLD ALLOWS DETECTION CONCENTRATION TO BE SET ANYWHERE BETWEEN 0.3 AND 3.0 $\mu\text{g/mL}$



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## EXCELLENT CORRELATION WITH OTHER METHODS

The TDx Amphetamine/Methamphetamine assay was compared to other methods for the detection of amphetamine and methamphetamine by assaying drug-free urine specimens and urine specimens containing amphetamine, methamphetamine, and amphetamine-like compounds. Representative data is shown below.

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Accuracy by Correlation  
with Reference Assays

The TDx Amphetamine/Methamphetamine II assay was compared to other methods for detection of amphetamine and methamphetamine by assaying drug-free urine samples and urine samples containing amphetamine, methamphetamine and amphetamine-like compounds. Representative data are shown below.

SITE 1

<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>EMIT® d.a.u.™ POS/NEG</u>	<u>GC/MS POS/NEG</u>
≥ 0.30 ug/mL by TDx	104	104/0	92/11 1 IR	103/1*
< 0.30 ug/mL by TDx	96	0/96	0/96	96 NT

	<u>TDx (ug/mL)</u>	<u>EMIT POS/NEG</u>	<u>GC/MS COMPOUNDS IDENTIFIED</u>
*	0.70	NEG	Amphetamine, methamphetamine, MDA, MDE, MDMA and phentermine negative. Labetalol positive.

IR = Inconclusive Result; duplicate analysis yielded one positive and one negative result.  
NT = Not Tested.

- TDx "Positive" = Concentration greater than or equal to the threshold, 0.30 ug/mL of d-amphetamine.
- EMIT "Positive" = Absorbance rate greater than or equal to the Low Calibrator, 0.3 ug/mL of d,l-amphetamine.
- GC/MS "Positive" = Concentration greater than or equal to 0.2 ug/mL for amphetamine, methamphetamine, MDA, MDE, MDMA or phentermine.

The Emit Amphetamine Confirmation Kit was used for this evaluation.

Accuracy by Correlation with  
Reference Assays, continuedSITE 2

Comparison of 199 clinical samples yielded the following data. For clarity, the results are displayed with respect to thresholds of 0.30 ug/mL and 1.00 ug/mL. The same 199 samples were used in each case.

<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>EMIT® d.a.u.™ POS/NEG</u>	<u>GC/MS POS/NEG</u>
≥ 0.30 ug/mL by TDx	99	99/0	99/0	99/0
< 0.30 ug/mL by TDx	100	0/100	0/99 1 IR	100 NT

IR = Inconclusive Result; duplicate analysis yielded one positive and one negative result.

NT = Not Tested.

TDx "Positive" = Concentration greater than or equal to the threshold, 0.30 ug/mL of d-amphetamine.

EMIT "Positive" = Absorbance rate greater than or equal to the Low Calibrator, 0.3 ug/mL of d,l-amphetamine.

GC/MS "Positive" = Concentration greater than or equal to 0.3 ug/mL for amphetamine, methamphetamine, MDA, MDE, MDMA or phentermine.

The Emit Amphetamine Confirmation Kit was used for this evaluation.

Accuracy by Correlation with  
Reference Assays, continued

SITE 2, continued

<u>SAMPLE TYPE</u>	<u>NUMBER</u>	<u>TDx POS/NEG</u>	<u>ROCHE ABUSCREEN® POS/NEG</u>	<u>GC/MS POS/NEG</u>
≥ 1.00 ug/mL by TDx	99	99/0	51/42 6 IR	99/0
< 1.00 ug/mL by TDx	100	0/100	0/100	100 NT

IR = Inconclusive Result; duplicate analysis yielded one positive and one negative result.

NT = Not Tested.

TDx "Positive" = Concentration greater than or equal to the threshold, 1.00 ug/mL of d-amphetamine.

Roche "Positive" = Counts per minute greater than or equal to the Cutoff Control, 1.0 ug/mL of d-amphetamine.

GC/MS "Positive" = Concentration greater than or equal to 0.3 ug/mL for amphetamine, methamphetamine, MDA, MDE, MDMA or phentermine.

The Roche Amphetamine (High Specificity) Kit was used for this evaluation.

**APPENDIX F**

## Studies Evaluating the Validity of Responses to Drug Use

Author	Date	Validation Criteria	Number (N)	Sample
Clark and Tiffet	1966	polygraph	45	students
Ball	1967	urine hospital records arrest records	59	former Rx patients
erry, Mitchell, Balter, Cisin	1970	prescription records	735	citizen volunteers
Stephens	1972	External evaluation	236	Rx patients
Whitehead & Smart	1972	not applicable	n/a	students
Leutgert and Armstrong	1973	internal questionnaire	514	students
Petzel, Johnson & McKillip	1973	internal questionnaire	628	students
Cox and Longwell	1974	urinalysis	110	Methadone Rx patients
Maddux and Desmond	1975	independent official records	248	Rx patients
onito, Nurco, & Shaffer	1976	independent official records	349	known substance abusers
rnel, Mandell, Matthias, Mason, & Hocharman	1976	interviewer choice intraquestions test-retest official records urinalysis	1,500	Rx patients
Page, Davies, Ladner Alfassa, & Tennis	1977	urinalysis	896	arrestees
Bale	1979	urinalysis	55	Rx patients
Ben-Yehuda	1980	urinalysis	47	Methadone Rx patients

Bachman and O'Malley	1981	internal analysis & comparison	16,654	students
le, Van Stone, Engelsing Zarcone, & Kuldau	1981	urinalysis	272	ex-patients
Wish, Johnson, Strug, Anderson, & Miller	1983	urinalysis	631	street criminals
Wish; Johnson, Strug, Chedekel, & Lipton	1983	urinalysis	32	street criminals
Wish	1986	urinalysis	4,847	PCP arrestees
Carver	1986	urinalysis	6,738	arrestees
Wish, Cuadrado, & Martorana	1986	urinalysis	106	probationers
sh, Brady, & Cuadrado	1986	urinalysis	6,633	arrestees
Wish	1987	urinalysis	701	arrestees
gura, Goldsmith, Casriel, ldstein, & Lipton	1988	urinalysis	248	Methadone Rx patients

Table One (Continued)

Author (cont'd)	Method	General Conclusion	% of Validity	Statistical Measure
Lark and Tiffet	Anonymous Questionnaires	high validity	92.5	percent agreement
11	interviews comparisons	good validity	70-90	percent agreement
arry, Mitchell, alter & Cisin	interviews comparisons	good validity	74	t test
tephens	interview questionnaire	good validity	90-95	percent agreement
itehead & Smart	Test-Retest Dummy Question	good validity	n/a	n/a
utgert Armstrong	questionnaire interview	not directly tested	validity not dependent on anonymity	Chi square
tzet, Johnson Phillip	survey questionnaire	validity adequate	approx. 4% (+) on bogus question	Z scores
x and Longwell	interviews	high validity	86	Chi square
ddux and Desmond	interviews	validity good	71	r
nito, Nurco, & laffer	interviews	validity good	80-90	r
el, Mandell, thias, Mason, Hochman	interviews	validity good	74%	percent agreement
e, Davies, ner, Alfasa, ennis	interviews	validity good	90+	Chi square multivariate analysis
ie	mailed questionnaire	validity good	76	r
i-Yehuda	questionnaire	validity good	65	Chi square C gamma

Author(s)	Method	Validity	Reporting	Statistical Measure
Chman & Malley	survey questionnaire	validity questionable	generally under-reported	Mean Ratio Expectancy
le, Van Stone, gelsing, rcone, & Kuldau	interview	validity good	78	Chi square
ish, Johnson, Strug, anderson, & Miller	interview	validity good	80	percent agreement
ish, Johnson, Strug, nedekel, & Lipton	interview	validity good	70-80	percent agreement
ish	interview	generally not valid	less than 1/3	percent agreement
rver	interview	generally not valid	48	percent agreement
sh, Cuadrado, Martorana	interview	not valid	underreporting (factors 2-10x)	percent agreement
sh, Brady, Cuadrado	interview	generally not valid	less than 56%	percent agreement
sh	interview	generally not valid	less than 46% (cocaine only)	percent agreement
gura, Goldsmith, sriel, ldstein, & Lipton	interview	"relatively inaccurate"	75	Kappa

**APPENDIX G**

PROTOCOL FOR PINELLAS COUNTY

DRUG USE FORECAST (DUF) PROJECT

Purpose

The Pinellas County Drug Use Forecast (DUF) Project has the following main purposes:

1. To provide a local data system for tracking drug use trends among arrestees in Pinellas County.
2. To estimate the size of the potential offender population in need of referral, diversion and treatment for drug abuse.
3. To utilize this information to assist in the development of a coordinated, community anti-drug strategy.
4. To provide data which can be used to develop grants to fund components of the community anti-drug strategy.

The data collected for the Pinellas DUF Project will be comparable to a similar national program instituted in 1987 by the National Institute of Justice in cooperation with the Bureau of Justice Assistance, and now in operation in 25 cities in the United States.

Objectives

1. To determine drug usage among Pinellas County arrestees through urinalysis drug testing.
2. To determine the socio-demographic characteristics and self-reported drug use/treatment histories of arrestees who are identified through urinalysis testing as "users" and "non-users."
3. To estimate the cost, in both financial and non-financial terms, of establishing an ongoing DUF program in Pinellas County.

## Method

1. Subjects. A sample of 250 males and 50-100 females arrested for non-drug felonies, DUI and prostitution-related offenses will be obtained beginning December 4, 1989. A limited sample of drug felonies also will be included. Participation in this project will be voluntary.
2. Procedure.
  - a. During the designated period, a specially trained assessment specialist will be on duty evening and night hours, Monday through Friday to administer a structured questionnaire and obtain a urine specimen from volunteer participants. Unique identifiers pairing the questionnaire and urine sample will be provided using labels provided by PAR. Such labels will be used to insure proper identification of subjects while preserving anonymity.
  - b. The booking officer will copy the charge and the arresting agency from the complaint/arrest affidavit onto a pre-printed card. All arrestees then will see the assessment specialist.
  - c. The assessment specialist initially will interview all appropriate arrestees and request voluntary participation. In order to insure protection from self-incrimination, the assessment specialist will provide a statement from the Sheriff providing assurance that results will remain anonymous and a statement from the State Attorney that participation in the program will not affect the prosecution of their case.
  - d. The assessment specialist will interview the arrestee, which will take about 10 minutes. The questionnaire data covers:
    - basic demographics
    - self-reported current and past use of drugs
    - substance abuse treatment history
    - present arrest charge
    - high risk behaviors for AIDS
  - e. The arrestee will be asked to give an anonymous urine sample for drug testing which will be conducted by Operation PAR's Drug Abuse Screening Laboratory. PAR's laboratory is state licensed as a Clinical Chemistry Laboratory and is nationally accredited by the College of American Pathologists. It is under the supervision of PAR's Medical Director, John Flint, M.D.

- f. Drug testing will be conducted using immunoassay technology. The results will not be used against the arrestee in any proceedings. The sample will be tested for cocaine and its metabolites, cannabinoids (marijuana, hashish), and opiates (heroin, morphine, Dilaudid, etc.).
- g. Arrestees will be asked to give a small hair sample for substance abuse analysis and research. If consent is given, the interviewer will clip approximately 60 strands from the nape of the neck using a scissors.

4. Materials.

a. Operation PAR will provide:

- training for all personnel assisting in the project
- urinalysis supplies (bottles, labels, etc.)
- a small refrigerator to store urine samples
- interview forms
- hair analysis collection kits and ancillary supplies
- daily pick-up of questionnaires and specimens

c. The Pinellas County Sheriff's Office will provide:

- staff to conduct interviews and collect specimens
- funds for urinalysis testing

5. Training. Operation PAR will provide training to the Sheriff Office booking nurses and designated assessment specialists in areas relevant to the project including urine and data collection methods.

6. Data Analysis. Results will be tabulated by PAR staff in conformity with the procedure developed for the national DUF project. A report will be developed jointly by PAR and the Sheriff's Office with review by the Office of Criminal Justice Planning.

7. Retention of Samples. Operation PAR will retain all collected urine samples for a period of at least two years following completion of this project. It is the policy of Psychomedics Corporation to retain all hair samples that test positive for four years and all other hair samples for two years.

**APPENDIX H**

**OPERATION PAR, INC.**  
Parental Awareness and Responsibility  
10901-C Roosevelt Boulevard, Suite 1000  
St. Petersburg, Florida 33716  
(813) 570-5080

**SUMMARY OF PROGRAMS AND SERVICES**

Operation PAR was incorporated in 1970 as a private, not-for-profit corporation [(501-C(3))], and has been providing substance abuse prevention, education and treatment services to citizens of Pinellas County since its inception. In 1986 PAR was named the "Most Outstanding Program in the United States" by the prestigious Alcohol and Drug Problems Association of North America. The following descriptions are brief summaries of programs offered by Operation PAR.

**1. PAR Therapeutic Community**

This program provides long term (18-24 months) residential treatment services to more than 80 adults using a variety of counseling services, recreational activities, medical care, and vocational and educational services. By mid-1990, program capacity will increase to 150 adults, of which as many as 12 may be women whose infants and small children reside with them in treatment.

**2. Adolescent Residential Treatment Center**

This Center provides intensive residential treatment services to 30 substance dependent adolescents and their families. A variety of individual, group and family counseling services are offered. Such basic services are also complimented by a core of supportive services such as education, recreational and life skills programs.

**3. PAR Detoxification Center**

This 8 bed program provides medical detoxification and stabilization for individuals addicted to a wide variety of drugs, including cocaine. Co-located on the grounds of PAR's Therapeutic Community, 24 hour medical care as well as counseling services are provided.

**4. Children of Substance Abusers Program**

Initiated in June 1988, this federally funded demonstration program in South St. Petersburg provides intervention to babies born addicted to cocaine, pregnant women abusing cocaine and other drugs, and infants and small children of cocaine abusing parents. The program works closely with the

Health Department, local hospitals, protective services and other social service providers. A special daily child development program for infants and pre-school children is also offered.

5. PAR Outpatient Program and Dually Diagnosed Services

This program provides individual, group and family counseling, as well as educational and vocational activities to clients on a drug-free, outpatient basis. Program services are designed around the individualized needs of the client or the family. Special Services are offered for individuals who have been diagnosed as presenting both a psychiatric disorder and a chemical dependency problem.

6. Employee Assistance Program

This program is offered to area industry and major employers. Services are provided which assist in the identification and treatment of problem employees with personal, family or substance abuse difficulties. Training programs for supervisors and management also are provided.

7. PAR Narcotic Addiction Treatment Center

Located in two counties, this program provides detoxification and maintenance services for the community's addicted opiate users. The goal of treatment is to assist the user in achieving abstinence and leading a socially productive lifestyle. This is accomplished through the combination of counseling and the careful use of methadone-based medical treatment.

8. Central Diagnostic Unit

PAR staff perform clinical evaluations for all persons convicted of DWI in Pinellas County. More than 4,000 diagnostic evaluations are conducted annually.

9. PAR Offender Diversion Program

This program assists the Criminal Justice System by providing court diversion and in-jail treatment services to adult and juvenile offenders with a history of drug involvement and criminal activity. Specialized treatment and educational services also are provided to inmates at two state correctional institutions. More than 2,500 people were served by this program in 1989.

10. AIDS Services

This program provides AIDS education to the community working directly with those individuals who are infected with the

HIV virus or who are at risk of infection. HIV testing and counseling also are provided.

11. Urinalysis Testing Laboratory

The most modern and advanced systems for detecting substance abuse through urinalysis testing are offered at PAR's own state licensed and nationally accredited laboratory. More than 80,000 tests are performed annually.

12. PAR Primary Prevention Program

This program provides life skills training to elementary school-aged students, parents, teachers and service providers to enable youth to enhance their ability to recognize, understand and manage their feelings and behaviors. This program, which serves more than 6,000 persons annually, also assists in the development of system networks which are supportive of healthy social and emotional development for young people.

13. PAR Alpha Program

PAR Alpha Program is a special prevention effort focusing on at-risk elementary school-aged children. The program is directed at children who manifest early signs of future psychosocial problems such as disruptiveness in class, social withdrawal and under achievement in basic academics. Upon identifying such at-risk students, the program seeks to intervene at the onset of behavioral problems and thus restore the child to healthy development. Student counseling and consultation services are also offered to the parents and teachers of the students.

14. PAR Beta Program

Beta is a truancy and delinquency prevention program modeled after PAR's Alpha and Primary Prevention Programs. This program provides daily, intensive after school counseling to middle school youth from South St. Petersburg who are disruptive at school or involved with the juvenile criminal justice system. Counseling and consultation services are also provided to parents as well as to school teachers.

15. PAR Early Intervention Program

This program targets high risk youth and those who are casual/experimental users of drugs or alcohol. Structured group education, life skills training and counseling are provided to youths at five local agencies which have residential or day treatment services, and seven county middle schools. Additionally, special intensive educational classes

for teenagers referred from the juvenile court, and their parents, are offered on a regular basis. PAR also offers an "adult" version of these classes for adult experimental drug users.

16. Community Education Program

This program offers a variety of educational services to interested parents, social service agencies, civic organizations and groups, schools and professional organizations. Educational services provided include ongoing drug and alcohol education courses, literature, films and video tapes, specialized courses for health professionals, conferences and workshops, and special outreach efforts oriented toward organizing local communities to enhance their ability to fight substance abuse.

17. Elder-Education Program

PAR's Elder-Ed Program is designed to target Pinellas County's senior citizen population with a view toward informing the public of the possible adverse reactions to medication misuse, providing instruction in the proper methods of using both prescription and "over the counter" medications, and providing education concerning alcoholism among the elderly.

PAR Central Administrative Unit

All program services provided by Operation PAR are coordinated by its central administrative unit. The following activities are provided by this unit:

1. Fiscal management, including payroll, budgeting, property control and purchasing.
2. Project coordination and management, including monitoring, research, evaluation and training.
3. Personnel services, including the development of personnel policies, job descriptions and position task analyses. All positions with PAR are filled directly at the program level.
4. In-service training, including training design, evaluation and implementation.
5. Planning and development, including grant development and the identification of resources necessary to carry out agency functions.
6. Central information processing, including data collection, analysis and dissemination.

Operation PAR's Board of Directors is composed of a cross section of community leaders in the fields of law, accounting, banking, business, real estate, law enforcement, government and education.

Operation PAR has a current, permanent work force of approximately 200 full-time employees in 13 locations throughout Pinellas County. We currently administer grants of more than \$6,000,000 from the following sources: Department of Health and Rehabilitative Services, Pinellas County Juvenile Welfare Board, the United Way of Pinellas County, Florida Department of Education, Federal Office of Substance Abuse Prevention, National Institute on Drug Abuse, the City of St. Petersburg, and the Business and Industry Employment Development Council.

For the 12 month period ending December 31, 1988, Operation PAR provided direct services to approximately 37,000 Pinellas County residents, as noted below:

4,076	Prevention Programs
2,412	Diversion Programs
21,921	Educational Services
4,650	Early Intervention/Treatment Services
4,032	Diagnostic (DUI)

Shirley Coletti, Operation PAR's President since the agency's inception in 1969, is well known in Florida, nationally and internationally as a leader in the field of substance abuse prevention and treatment. Among her many honors and accomplishments are her appointments by President Reagan to the United States Senate Caucus on International Narcotics Control and by the U.S. Health and Human Services Secretary to the National Institute of Drug Abuse Advisory Council (NIDA). She is a member of the Florida Governor's 15 member Drug Policy Task Force and also serves as Chairman of the Cocaine Babies Subcommittee of that Task Force. She serves on the Boards of many organizations, including Therapeutic Communities of America (TCA), the National Association for Perinatal Addiction Research and Education (NAPARE), Immediate past President and Board member of the Florida Informed Parents for Drug-Free Youth, and former Chairperson of the National Federation of Parents for Drug Free Youth. She has served as a U.S. delegate to international drug abuse conferences on three continents and is a long-time advisor to state and national leaders.

Operation PAR is an equal opportunity/affirmative action employer.

## **APPENDIX I**

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**APPENDIX J**

# RIAH SAMPLE ACQUISITION INSTRUCTIONS

Before actually cutting the hair sample(s), please review the contents of the Sample Acquisition Kit. It should contain the following items:

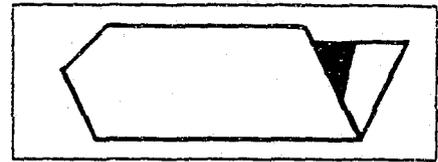
- One Sample Acquisition/Specimen Identification Card
- One piece of foil
- One white label
- One red integrity seal
- and a small plastic bag

Other than these items you will need only a pair of sharp scissors, preferably with thin blades. A comb and hairclip may be helpful for thick long hair.

To order a hair analysis, carefully complete either the **Gold** or the **Green Test Request Form**.

1. Check test subject's identification with valid photo I.D.
2. Bend the foil lengthwise into a "V" shape.

FOLD FOIL 'V'



3. Location on the head from which the hair is taken is critical: Take the hair sample from the vertex (figure 1) or as close to it as possible. For sparse hair, see figure 2.

The size of the hair sample is also important grasp a lock of hair that when laid flat across your finger equals about 1 cm. in width (see sample acquisition card for ruler).

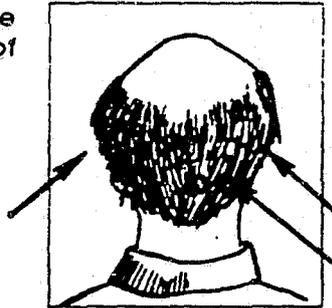
Pinch the hair sample firmly; holding it out from the head, cut as close to the scalp as possible. The end of the hair that was cut is the root end. To remove the cut hair sample, put down scissors and pull hair away from scalp with your free hand, keeping root ends aligned.

Figure 1



Approximate location of vertex

Figure 2

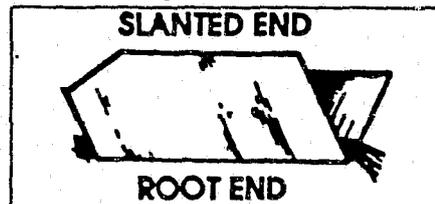


Collect hair sample from two or three separate locations. Total sample should equal 1 cm. in width when laid flat. Combine cut hair carefully aligning root ends

Note: **Clean scissors and all other instruments after collection of each sample.**

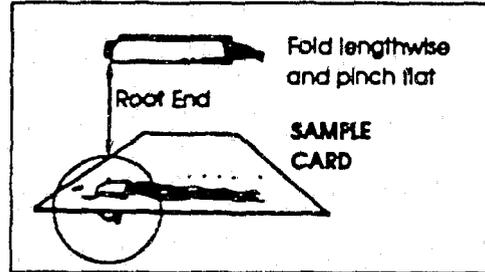
4. Place the hair sample in the foil with the **root ends at the slanted end of the foil**. Keep root ends evenly aligned to ensure proper test results. Pinch foil closed and fold tightly around the hair.

SLANTED END

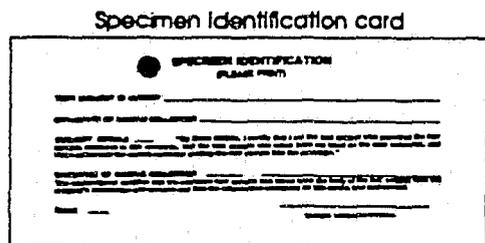


ROOT END

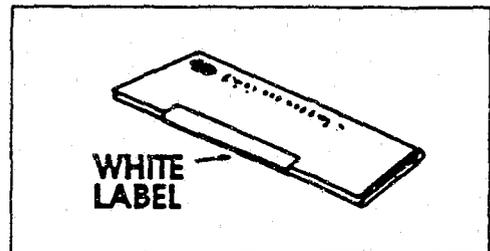
5. Place the root end of the hair sample (slanted end of foil) through the slit in the Sample Acquisition/Specimen Identification Card and bend foil down over the slit to secure the hair sample.



6. Complete the Sample Acquisition/Specimen Identification Card with the test subject ID number, City/State and Date/Time of sample collection. Have the test subject initial the card to certify authenticity of the sample's origin, then sign and date the card.



7. Fold the Sample Acquisition/Specimen Identification Card closed making sure that the hair is flat. Secure the card with the white label on the long side.



8. Place the card and the folded test request from the plastic sample acquisition bag. Seal the plastic bag with the red integrity seal. Sign and date the red seal in the presence of the test subject, verifying the security of the sample.



Any questions or orders for Safety-Net<sup>SM</sup> Kits or additional materials should be forwarded to Psychemedics' Customer Service Department:



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1-800-533-RIAH

**APPENDIX K**

Thomas Michael Mieczkowski

*Curriculum Vitae*

*Office:*

University of South Florida  
140 Seventh Avenue South  
St. Petersburg, FL 33701-5016  
Telephone: (813) 893-1956

*Home:*

167 Almedo Way, N.E.  
St. Petersburg, FL 33704  
Telephone: (813) 896-7962

*EDUCATION*

*Educational Background*

Ph.D.	Wayne State University Specialization: Criminology/Deviance Dissertation: "Street Selling Heroin: The Young Boys Technique in a Detroit Neighborhood"	1985
M.A.	Wayne State University Specialization: Criminology Thesis: "Syndicated Crime in the Caribbean"	1976
B.A.	Wayne State University Major: Sociology/Biology	1969

*Awards and Honors*

1988	Certificate of Technical Merit National Institute of Justice
1984	Lecturer, Graduate Honors Symposium Wayne State University
1983	Nominee, President's Young Scholar Award
1983	Qualifying Examination Passed with Special Distinction
1982	Recipient, Thomas Rumble Professional Fellowship
1981	President, Graduate Student Organization
1979-1982	Graduate Teaching Assistantship
1974-1976	Graduate Professional Scholarship
1966-1969	Board of Governors Academic Scholarship

8/14/89

*Professional Organizations*

Alpha Kappa Delta  
American Society of Criminology  
Caribbean Studies Association  
Academy of Criminal Justice Sciences

*EXPERIENCE**Professional*

Assistant Professor Department of Criminology University of South Florida	August 1989-Present
Acting Chair Department of Criminal Justice Wayne State University	January - August 1989
Lecturer Department of Criminal Justice Wayne State University	September 1986 - December 1988
Lecturer Behavioral Science Department University of Michigan-Dearborn	September 1985 - June 1986
Instructor Department of Criminal Justice Wayne State University	September 1979 - June 1986
Instructor Henry Ford Community College	September 1980 - September 1985
Instructor Mercy College at Detroit	September 1980 - June 1982
Instructor Sacred Heart Seminary	September 1981 - May 1982

8/14/89

### Courses Taught

Introductory Sociology, Social Problems, Marriage and Family, Criminology, Penology, Deviance, Organized Crime, Juvenile Delinquency, Crime and Society, Penology and Corrections, Comparative Criminal Justice, Sociology of Poverty, Sociology of Education, Introduction to Criminal Justice, Terrorism, White Collar Crime.

In addition, directed several internship and field study programs including Sociology of Poverty Field Study, U. S. Marshal's Service Internship Program, Defense Investigative Administration Recruitment Program, and Criminal Justice Internship Program.

### Other Work Experience

Captain  
M/V *My Sweet Lord*  
Latham Smith Shipping  
Ste. Laurent du Maroni, Guyane Francais, S. A. April 1977 - June 1978

Chief Engineer  
Tug *Bayou Brave*  
Misener Marine Industries  
Tampa, Florida June 1976 - April 1977

Production Manager  
PPG Industries  
Chicago, Illinois August 1973 - September 1974

Chief Mate  
M/V *Jens Juhl*  
Triumph Shipping  
Port O' Spain, Trinidad June 1972 - August 1973

### RESEARCH

### PUBLICATIONS

#### Books

*A Drugs/Crime Reader*. Manuscript in preparation. Boston, MA: Allyn and Bacon. Projected publication: Winter 1990.

8/14/89

*Monograph*

*Studying Crack Use in Detroit: An Application of the Drug Use Forecast System*, in press. Washington, D. C.: National Institute of Justice.

*Chapters in Books*

"The Accuracy of Self-Reported Drug Use: An Evaluation and Analysis of New Data," forthcoming. In Ralph Weisheit (ed.), *Drugs and the Criminal Justice System*, Stanton, MI: Andersen Publishing.

"Syndicated Crime in the Caribbean," 1983. Pp. 89-102 in Gordon Waldo (ed.) *Career Criminals*, Beverly Hills, CA: Sage.

*Journal Articles - Refereed*

"The New Heroin Users: A Review," in press, *Criminal Justice Review*. (by invitation)

"Studying Heroin Street Gangs: A Research Note," in press, *Criminal Justice Review*.

"Crack Lingo in Detroit," forthcoming, *American Speech*.

"Crack Distribution in Detroit," forthcoming, *Contemporary Drug Problems*.

"The Fence: A Review Essay," June 1989, *Criminal Organizations*. (by invitation)

"Minorities and Criminality: A Review Essay," forthcoming, *International Migration Review*. (by invitation)

"An Exploratory Investigation of Drug Use, Health, Family, and Social Support in Male and Female Crack Cocaine Users," forthcoming, *The International Journal of Addictive Behavior*. (with Carol Boyd)

"The Damage Done: Cocaine Methods in Detroit," 1988, *International Journal of Applied and Comparative Criminal Justice*, 12(2):261-268.

"Are Social Scientists Effective in Changing Governmental Conceptions of Organized Crime?" 1987, *Law Enforcement Intelligence Analysis Digest*, 2(1): 45-58.

"Taking Care of Business: A Review Essay," 1987, *Criminology*, 25(1):203-211.

"Monroe in a Cadillac: Drug Argot in Detroit," 1986, *International Journal of Applied and Comparative Criminal Justice*, 10(1):137-146.

"Geeking Up and Trowing Down: Heroin Street Life in Detroit," 1986, *Criminology*, 24(4):645-666.

*Journal Articles - Non-refereed (by invitation)*

"The Crack Epidemic: Health and Family Consequences," in press, *The Law Enforcement Journal*.

"Terrorism and Local Law Enforcement," 1989, *The Law Enforcement Journal* (Summer).

"Crack Cocaine Distribution," 1989, *The Law Enforcement Journal* (Spring).

"Drug Testing: Current Concepts and Controversies, 1988, *The Law Enforcement Journal* (Winter).

"The Reliability of Self-Reported Crime Data," 1988, *The Law Enforcement Journal* (Summer).

"Drug Methods and Gender," 1988 *The Law Enforcement Journal* (Spring).

"The Drug Use Forecast in Detroit," 1987, *The Law Enforcement Journal* (Winter).

"The Relationship between Family and Crime," 1987, *The Law Enforcement Journal* (Summer).

"Drug Terminology in Detroit," 1986, *The Law Enforcement Journal* (Spring).

"Handguns and Crime in Detroit," 1986, *The Law Enforcement Journal* (Winter).

*Paper Presentations*

"Crack Houses, Neighborhoods, and Community Organization," April 1989. Paper presented to The Training Institute for Popular Organizations, Detroit.

"The Detroit Crack Ethnography Project," April 1989. Colloquia at University of South Florida.

"The Detroit Crack Ethnography Project: Preliminary Findings," March 1989. Colloquium at University of Michigan, Flint.

"Crime in Detroit," February 1989. Colloquium to Sociology Alumni Association, Wayne State University, Detroit, Michigan.

"Local Uses of Drug Use Forecast Data," January 1989. Presentation to Drug Use Forecast National Directors meeting, Phoenix, Arizona.

"Crack Selling Organizations: An Analysis of the Detroit Street Trade," December 1988. Presentation to The Governor's Conference on Violent Youthful Offenders, Lansing, Michigan.

"Crack Distribution in Detroit," November 1988. Presentation to American Society of Criminology annual meetings, Chicago, Illinois.

"Drug Trafficking and Organized Crime," June 1988. Presentation to the Michigan Corrections Association Symposium.

"The Uses of Drug Forecasting for Cities: DUF in Detroit," December 1987. Presentation to the National Institute of Justice, Washington, DC (by invitation).

"The Use of a State Policy Assumptions Conference/Workshop to Elicit Trend Information for a Correctional Forecast Model," November 1987. Presentation at American Society of Criminology annual meetings, Montreal, Quebec.

"Ethnomethodology and Crime," November 1987. Presentation at American Society of Criminology annual meetings, Montreal, Quebec.

"Crime Trends in Michigan, 1960-1985," March 1987. Presentation to Michigan Department of Corrections Policy Assumptions Conference, Lansing.

"Street Selling Heroin Techniques," December 1986. Colloquium to the Addiction Research Institute, Wayne State University, Detroit, Michigan.

"The 1967 Commission and the President's 'War' on Organized Crime: A 20 Year Evaluation," November 1986. Presentation to American Society of Criminology annual meetings, Atlanta, Georgia.

"Vigilantism and Homicide," November 1985. Presentation to American Society of Criminology annual meetings, San Diego, California. (with Joseph Albini).

"Community Crime Control," October 1985. Presentation to Michigan Corrections Association annual meetings, Battle Creek.

"Detroit's Young Boys, Inc.," June 1985. Colloquium at University of Toledo.

"Researching the Young Boys," May 1984, presentation at the Graduate Honors Symposium, Wayne State University.

"The Juvenile Delinquent as Heroin Entrepreneur: Detroit's Young Boys, Inc.," November 1983. Presentation to American Society of Criminology annual meetings, Denver, Colorado.

"Syndicated Crime in the Caribbean: A Case Study," November 1982. Presentation to American Society of Criminology annual meetings, Toronto, Ontario.

*Research Grants, Financial Awards, etc.*

Project Manager, Drug Use Forecast System, Detroit, Michigan, 1989-1990, \$38,000.

Bureau of Justice Assistance, Detroit, Michigan Crack Ethnography Project, August 1988. \$10,000 grant.

National Institute of Justice Consulting Pool, Retainer Contract. July 1988 to present.

National Institute of Justice, Drug Use Forecast Training Project, Open-ended Services Contract. \$10,000 to \$20,000 (estimated).

Project Manager, Drug Use Forecast System, Detroit, Michigan, 1988-1989, \$38,000.

Principal Investigator, Pilot Study, National Institute of Justice, National Drug Use Forecast Study, August 1987, approximately \$7,000.

Research Associate, Michigan Department of Corrections Research Grant, "Mathematical Forecasts of the Michigan Prison Population Through the Year 2000," 1986, approximately \$80,000.

Thomas Rumble Fellowship, Doctoral Dissertation Grant, 1985, approximately \$10,000.

*SERVICE**Professional*

## Reviewer for:

*Criminology**Justice Quarterly**Journal of Contemporary Ethnography**Criminal Justice Review**International Journal of Comparative and Applied Criminal Justice*

West Educational Publishing

Brooks/Cole Publishing

*Community*

Consultant, Police Officer's Association of Michigan, 1987 to August 1989.

Interview, WXYZ-TV Channel 7, Evening News, Detroit, Michigan, March 1989.

Interview, ABC (National), Evening News, November 1988.

"The Drug Use Forecast in Detroit: Wave 1," a report to the Chief of Police, City of Detroit, November 1988.

"The Drug Use Forecast System in Detroit," presentation to the New Detroit Committee, Detroit, Michigan, October 1988.

Consultant, research report, Becker and Van Cleef P. C., "Criminal Offenses and Handguns," October 1986.

Expert Witness, *David Kryzak vs. The Detroit News et al.*, June 1986.

Consultant, Federal Republic of Germany, Report on American Urban Crime, October 1985.

Appointment to the Task Force on Substance Abuse, City of Detroit Department of Health, June 1985.

Expert Witness, *United States vs. Chappel*, United States Federal District Court, Detroit, Michigan, June 1985.

"Detroit's Young Boys, Inc.," presentation on WXYT radio, Detroit, Michigan, June 1985.

8/14/89

"The Drug Scene in Detroit," *Focus* with J. P. MacArthy (national syndication), WJR radio, May 1985.

"Drug Selling Techniques," *Current Issues*, WOMC radio, Detroit, Michigan, May 1985.

"Research on Drug Distribution," Wayne State Forum, WDET radio, Detroit, Michigan, May 1985.

"Heroin and the Detroit Community," presentation on WRIF radio, Detroit, Michigan, 1983.

#### PERSONAL

Birthdate: August 21, 1947

Birth place: Detroit, Michigan

Married to Susan Fraser, M.D.

Daughter: Susan, age 4

Son: Alexander, age 2

Leisure interests: long distance running, piano, handball

#### REFERENCES

Marvin Zalman, J.D., Ph.D.  
Department of Criminal Justice  
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Seminole, Florida 34642

813-391-5567 (home)  
813-527-5866 (work)

married (Sue); 1 child  
DOB December 6, 1946

### Education and Honors

- 1975 M.S.S.W., Kent School of Social Work, University of Louisville, Kentucky. Kentucky Department for Human Resources full salary stipend; U.S. Law Enforcement Administration grant.
- 1973 M.A. in Political Science, State University of New York at Binghamton, New York. Graduate Teaching Assistantship.
- 1971 Fulbright-Hayes Fellowship, Gujarat University, Ahmedabad, India.
- 1968 B.A. in Political Science, State University of New York at Binghamton.

Honors: Administrator's Award for Public Service (1987), U.S. Department of Health and Human Services, U.S. Public Health Service  
Sertoman of the Year (1986), Feather Sound Sertoma Club, Clearwater, Fl.  
Social Worker of the Year (1985), National Association of Social Workers  
Faculty Member of the Year (1979), St. Leo College  
Humanitarian Award, Community Action Agency (1979), Pasco County, Fl.

### Professional Experience

- 1979- Present Director of Administrative Services, Operation PAR, Inc., Pinellas Park, Fl. Responsible for program design, implementation, supervision, evaluation, grant development, personnel and general administrative duties in a major non-profit, substance abuse prevention and treatment agency. Directly and indirectly supervise 125 staff. Authored more than \$5,500,000 in funded grants since 1979. Agency has an annual budget of 4.5 million dollars.
- 1979- Present Adjunct Instructor of Criminal Justice, University of South Florida, St. Petersburg. Teach graduate and undergraduate courses in criminal justice; Adjunct Instructor: Nova University graduate program in Human Services.
- 1976-79 Assistant Professor of Social Work, St. Leo College, St. Leo, Fl. Taught undergraduate courses in social work and criminology.
- 1973-76 Graduate Social Worker, Kentucky Dept. for Human Resources, Elizabethtown, Ky. Held progressively responsible positions in a public social service agency, including treatment team leader and family therapist for a day treatment center for adolescents, and only child welfare/juvenile services worker for a rural county serving 11,000 people. Supervised aides and homemaker staff.

- 1973-76 Adjunct Instructor of Political Science, University of Kentucky, Fort Knox, Ky. Taught undergraduate courses in Political Science.
- 1975 Psychiatric Social Worker, Dept. of Neuropsychiatry, Ireland Army Hospital, Fort Knox, Ky. Performed individual, marital, group and family therapy in an outpatient psychiatric clinic. Worked extensively with depressed and suicidal individuals (field placement).
- 1968-70 U.S. Peace Corps Volunteer, Kangavar, Iran.

### Professional Memberships and Leadership

- Chairman of the Board of Directors, San Antonio Boys Village, Inc., 1980-86 (residential treatment for delinquents and group homes for at-risk teenagers)
- National Association of Social Workers (State Chairman, National Policy Center Fundraising Campaign, 1987+; Secretary, Florida State Chapter, 1979-81; volunteer lobbyist; numerous local offices.)
- Florida Alcohol and Drug Abuse Association (Chairperson, State Rules Revision Committee; volunteer lobbyist; numerous committees)
- Common Cause (former chairperson, 5th C.D. in Kentucky; former member state board)
- Former Vice-President, St. Leo Chapter of the United Faculty of Florida

### Publications

- "Confidentiality and the Criminal Justice System," in M. Fontaine (ed.), TASC Trainer's Manual. Florida Alcohol and Drug Abuse Association, Tallahassee, Fl., 1987.
- A Guide to Florida Laws and Regulations for Drug and Alcohol Counselors (Rev.). Florida Alcohol and Drug Abuse Association, Tallahassee, Fl. 1986, 1987.
- Addictions Certification Preparation Manual (co-author). Florida Alcohol and Drug Abuse Association, Tallahassee, Fl. 1986.
- All About Me; A Life Skills Ideabook for Young People, 3rd Edition (co-author), and Teacher's Guide. Operation PAR, Pinellas Park, Fl. 1986.
- Hugs Are Better Than Drugs; A Drug Education Guide for Teens (editor/consultant). Operation PAR, Pinellas Park, Fl., 1985.
- "Suicide Lethality Assessment," in Crisis Intervention and Prevention. Florida Alcohol and Drug Abuse Association, Tallahassee, Fl., 1985.

"Prevalence and Risk of Medication Mismanagement by the Elderly" (with M.A. Morck), Journal of the Florida Medical Association, April, 1984, 71:261-266.

"School-Based Prevention Program for Potential Drug Abusers," Journal of Social Work Education, July, 1983, 5:241-257.

"Medication Misuse by the Elderly: The Development of Training Manuals for Health Professionals," in R. Faulkinberry (ed.), Drug Problems of the 70's: Solutions for the 80's, 1981.

### Major Workshops and Presentations

"Developing Alternative Funding Sources." Florida State Displaced Homemaker Conference, Clearwater, Fl., 1987.

"Innovate Use of Chapter I Funding." 9th Annual National PL 89-313 Provider's Conference, Rapid City, S.D., 1987.

"Hostage Negotiation." 3 day training for Pinellas Co. Sheriff's Department, 1987.

"Rules and Regulations: Impact on the Clinician." Jacksonville, Panama City, Tampa, Orlando, Ft. Lauderdale, 1986, 1987.

"Addictions Certification Preparation Course." Miami, Tampa, St. Petersburg, 1986, 1987.

"Crisis Intervention and Prevention for Correctional Officers." 3 day training for Florida Department of Corrections, Tampa, Orlando, 1984.

"Public Policy Issues in Treatment Financing." 2nd National Conference in Financing Alcohol and Drug Abuse Treatment Services, Clearwater Beach, Fl. 1984.

"Federal Funding for Human Services and the State of Florida." Keynote Address, Florida Association for Community Action Conference, Jacksonville, Fl., 1983.

"Lobbying for Change." Florida Alcohol and Drug Abuse Association Annual Conference, Tampa, Fl., 1983.

"New Federalism--Crisis and Opportunity." Florida Association of Health and Social Services Conference, Tallahassee, Fl., 1982.

"Shifting the Shaft: Block Grants in the State of Florida." 7th Annual Conference on Professional Social Work Development, Orlando, Fl., 1982.

"School-Based Prevention Programming for High Risk Youth." 7th Annual National Association of Social Workers' Professional Symposium, Philadelphia, 1981.

"Block Grants: How They Will Influence Florida Human Services." Annual Conference of the Florida Society for Hospital Social Work Directors, 1981.

"The Adolescent Dilemma: When is Child Abuse No Longer Child Abuse?" Florida Conference on Humanistic Issues in Child Abuse, Tampa, 1980.

"Total Prevention Networking Within a School System: The Alpha Model." American Association of Psychiatric Services for Children Annual Conference, New Orleans, 1980.

"Political Attitudes and Behaviors of Social Workers" (with G. Wilmoth). Annual Conference of the Florida Chapter, National Association of Social Workers, Hollywood, Fl., 1980.

### Other Professional Activities

Chairperson, Project Block Grant, a coalition of 22 state-wide human service professional and advocacy groups monitoring block grants and state funding in Florida, 1982-84.

Organized the "Coalition on Migrant Action," a coalition of regional agencies and organizations concerned with migrant issues and state legislative action, 1978-79.

Consultant, Pasco County (Florida), Public Defender's Office. Assisted in establishing a lawyer-social worker team defense for defendants accused of capital crimes, 1978.