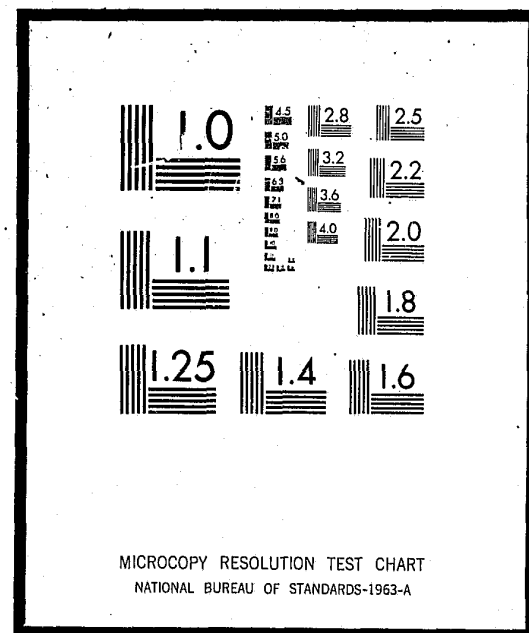


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FINAL REPORT
CROZER-CHESTER MEDICAL CENTER METHADONE MAINTENANCE PROGRAM
(SE - 373 - 73A)

CENTER FOR SOCIAL POLICY
AND
COMMUNITY DEVELOPMENT
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Urinalysis results reveal indications of patients' continued illicit drug use. Quinine traces implicate approximately 33% of all patients in the use of illicit heroin (31% or more of these patients' urinalyses are positive for quinine). However, program staff have adopted a flexible philosophy concerning sporadic illicit heroin use, whereby such use is not defined as automatic grounds for dismissal from the program. Rather, a range of additional factors (receptivity to the program's total services) is considered. Sporadic heroin use is deemed to be symptomatic of patients' difficulties in adjusting to the program and to stressful periods in the patient's life, and provides counselors with evidence that the patient is in need of intensive counseling and a reorientation to realistic treatment goals. We concur with this philosophy.

The continued use of other illicit substances (barbiturates, morphine, codeine, amphetamines, methamphetamines) is also evident, but the use of these substances is significantly less prevalent than heroin.

Evidence developed within this report reveals that patients who are at least 30 years of age at intake, (the age range associated with the likelihood of persistence with the program), display a succinct set of social, drug use, and prior treatment characteristics. That is, older patients are highly likely to continue to use illicit substances, have had a lengthy heroin involvement, have had experience in a number of treatment programs, and are deficient with respect to occupational skills and educational attainment. These findings lead us to question "persistence with the program" as indicative of a "successful" treatment outcome. Rather, the evidence argues that this patient group is

I. Executive Summary

A. Goals

The program goals include:

1. continued treatment of program patients through the provision of counseling, health, social, and psychological services, in order to bring about patients' rehabilitation from heroin dependence and restoration to the community; and
2. decreases in illicit drug use, criminal behavior, and an increased level of stable community participation through employment and education.

The first goal is the program's "primary" set of objectives, concerning service delivery capability and effort and a general statement of outcome. The second goal area includes measurable indicators by which program effectiveness can be assessed.

B. Conclusions and Recommendations

Based on evidence developed within the body of this report, it is concluded that the Crozer-Chester Medical Center Methadone Maintenance Program is successful in the attainment of its goals. Active patients display a high employment rate, relative to the pre-program period. A similarly positive result is in evidence with respect to patients' arrests during methadone maintenance; 13.8% of all patients (active or inactive) have been arrested during the course of treatment, a significantly lower number than would be expected from the percentage (40%) of all admissions who are on probation, parole, or bail at the time of intake.

a selected residual category with demonstrably low social and personal resources. The presence of this disadvantaged group, within a patient population which is itself disadvantaged (70% of all admissions come from "low" occupational status backgrounds) requires an enhanced degree of effort, on the part of the program staff, to meet these unmet needs. Accordingly, it is recommended that existing counseling efforts, with respect to long-term patients, be reappraised, with a view toward implementing an intensive treatment approach focusing on the resolution of the educational, vocational, and personal needs which the older patient group displays.

Related to the above comments, we reiterate a recommendation made in our interim report: it is recommended that the program administration actively seek to successfully withdraw from methadone approximately 20% of each year's active patient group. Where realistic, long-term patients should be singled out as the priority target group. This group should not be passively accommodated, but should be encouraged to define eventual withdrawal as a positive and realistic treatment outcome.

Several recommendations with respect to record-keeping and information system needs are in order. The record-keeping omissions and deficiencies noted in this report should receive priority attention, as should the matter of a comprehensive computerized information system. The ongoing availability of accurate patient census information should be given immediate attention, as should case record entries concerning the "closing summary" details of inactive patients.

Recommendations made at the time of our interim report have been implemented, or are currently receiving the program administration's attention.

This executive summary is intentionally brief. For additional details concerning empirical findings and related discussions the reader is referred to the body of the report.

II. Project Activities

A. Goals of the Crozer-Chester Medical Center Methadone Maintenance Program

The program goals include:

1. continued treatment of program patients through the provision of counseling, health, social, and psychological services, in order to bring about patients' rehabilitation from heroin dependence and restoration to the community; and
2. decreases in illicit drug use, criminal behavior, and an increased level of stable community participation through employment and education.

The first goal is the program's "primary" set of objectives, concerning service delivery capability and effort and a general statement of outcome. The second goal area includes measurable indicators by which program effectiveness can be assessed.

B. Activities

The Crozer-Chester Medical Center Methadone Maintenance Program provides methadone maintenance and supportive and counseling services to a patient group of approximately 100 patients. There are two full-time counselors, and one human services aid, currently assigned a patient load of 19. Methadone is dispensed twice daily, in order to accommodate patients' work schedules. On the average, patients are seen by their counselors on a monthly basis. Approximately 10% of each counselor's patients are seen on an intensive basis (as much as once daily), during periods of adjustment to the program and to outside

stress factors. Periods of intensive counseling are used by patients and counselors to arrive at mutually acceptable treatment goals, reassessments of patients' treatment outcomes, vocational, educational and personal needs, etc.

Patients' medical needs are met as required, annual physical examinations are given, social service referrals are made, and there is a "couples" therapy group, in which three couples are currently enrolled, which meets on a weekly basis under the auspices of the program's staff psychologist and one of the staff counselors.

The program staff consists of the administrator, two counselors, a human services aid, a nurse, a pharmacist, a part-time psychologist, a part-time psychiatrist, and two clerical staff members.

III. Evaluation Activities

Evaluation activities upon which this report is based include the implementation of an evaluation design stressing outcome measures, interviews with program administration and staff, interviews with patients, examination of patient records, the analysis of information provided by the program staff, site visits, and ongoing contact (telephone) with the program's administrator.

Information used in this evaluation includes quantitative analyses of a number of variables in relation to selected outcome measures, patient census information, data on selected aspects of service delivery, and data gathered from site visits and interviews with patients and staff.

Documented information (extracted from patients' records) is assumed to be valid and reliable, even though much of the information contained in

patients' files is self-reported by the patient, who is not as a rule required to furnish documentation as to social-demographic, prior treatment, drug history, or socioeconomic information.

In much of the analysis covered in this report, case records of all active patients (N=114), and a (50%) random sample (N=91) of inactive cases are reported. It should be noted that there appears to be a slight discrepancy between the numbers of active and inactive patients reported by the program versus the numbers coded by CSPCD evaluation staff from the program's files. That is, at the time of data collection, CSPCD staff coded 114 patients as currently (May, 1974) active; the program's tally was 106. It is not anticipated that this discrepancy will affect the evaluation's validity. One additional data-collection difficulty was noted: reasons for termination of approximately 30% of inactive patients could not be ascertained, a result which has decreased the utility of the analysis of selected variables in relation to reasons-for-termination.

In the section covering continued drug use, CSPCD evaluation staff only coded urinalysis results contained within each patient's file. Other information pertinent to recent urinalysis tests is kept in each counselor's possession (for purposes of monitoring each client), but was not examined due to time and cost factors. As a result, each active patient's most recent urinalysis results are not included in the present analysis. We do not feel that the omission of this data constitutes a methodological weakness, however, since it is assumed that the information contained within each file is representative of patients' continued drug use patterns.

In the future, it is recommended that the program develop the capability of machine data retrieval, in order to avoid laborious work with individual files. (Such a plan is to be implemented this year, under the auspices of Chester County MH/MR.) Further, program staff should pay particular attention to keeping patient census records current, in order to avoid inaccurate reflections of the active patient population, and to insure that each patient's status is accurately documented.

IV. Results

In this section the extent of the program's coverage is quantified. Analysis reveals that there are 114 patients in the program's "active" case-load file. The "inactive" file contains an additional 184 records, of which 91 (a 50% random sample) were examined for the present report. Thus, 298 cases have been admitted to the program during its existence (since December, 1971); of this number, 96 are defined as "active" at the time this report is written.* In Table 1, it can be seen that 30.4% of the patients currently defined as active (in the CSPCD analysis) have been in the program for at least 25 months. Approximately 28% have been patients for a year or less; an additional 42% have been patients for more than one year, but not more than two.

Examination of the inactive column (Table 1) indicates that the majority (60.4%) of those who terminate do so within the first six months following admission. One out of four leaves the program in the second six months. The remaining 15.4% leave after one year.

*There is, as noted, a discrepancy between CSPCD's analysis and the patient census reported by the program. The 96 active patients reflects the program's census as of June 3, 1974.

With respect to readmissions, Table 2 indicates that 23.1% of all admissions are eventually readmitted. Approximately 5% of all admissions have been readmitted more than once (17.7% have been readmitted once). The interval between termination and first readmission is 7.6 months, on the average. Following the second termination the average interlude is 4.4 months.

Physical Examinations

It is usually the case that a readmitted patient receives a new physical examination (Table 3). In the table, which contains information on all program admissions regardless of their current active or inactive status, it is seen (column one) that the majority (61.3%) of first admissions have had one physical examination (at intake); 23.3% have had two; 13.3% have had three; 2% have had four. Only 17.1% of first readmissions have had only one physical; the remainder have had two or more. A similar pattern is in evidence for the remaining ten patients who have been readmitted two or three times.

These results indicate that a patient conventionally receives a physical examination at intake. However, physicals at the time of readmission are contingent upon the duration of the individual's absence from the program.

Physical examinations are clearly related to admission-readmission factors, and to duration of stay in the program. (Federal regulations require one physical per patient per year.)

Outcomes Related to Goal-Attainment

This section includes results related to patient (and program) outcomes. First, patients' employment rates are considered, followed by an analysis of repeat criminal behavior (measured by arrests), and continued drug use. In a later section we undertake an expanded analysis of continued drug use, (factors related to illicit drug use during methadone maintenance), and an examination of the variables which differentiate active and inactive patients.

Employment

We ascertained that 20.6% of all patients whose records we reviewed (N=205) were employed at intake (Table 5). In May, 1974, 38.4% of the active patient group were employed (reported by each patient's counselor). On the basis of these results, it is clear that experience with the program enhances patients' employment, relative to the pre-program period.

It is clear that the overall skill level of the patient group is low. Only 10% of all patients taken into the program have attained greater than a high school education. Approximately 70% of patients admitted to the program are classed as "unskilled" with respect to occupational status. (Associations between these variables and additional outcome measures are discussed elsewhere in this report.) These factors point to the magnitude of the patients' unmet needs in the areas of educational and vocational counseling and training.

Repeat Criminal Behavior

Of all records which included complete information (N=203) a total of 28 patients (13.8%) have been arrested while in the program (Table 6). This result indicates that the program is effective in decreasing patients'

criminal behavior, since it is evident (Table 6) that approximately 44% of all patients admitted to the program are either on probation, parole, or bail at the time of admission. This evidence suggests the degree to which the patient population is "at risk" for criminal recidivism, and indicates that patients' criminal behavior, during program tenure, can be seen to be curtailed.

Table 6 reveals that there is essentially no relation between length of program tenure and the likelihood of arrest.

In view of the small numbers of patients arrested, there was no attempt to analyze specific criminal charges. However, one case was arrested twice, and two cases were arrested four times.

Evidence of Continued Drug Use

In this section the prevalence of continued drug use is examined. The urinalysis results for all active patients (for whom records were available, N=82), are detailed in Table 8. The coding categories used in our analysis, indicating percentages of "positive" test results, are set forth in Table 7.

In the table, it is apparent that illicit opiate use is (measured by quinine traces) is the most prevalent abuse pattern. In the quinine category, 28% of the subjects exhibit a negligible (less than 10% "positives") result. The balance of the patient group demonstrates higher degrees of use, ranging from 18.3% for whom between 11% and 20% of the tests are positive, a similar percentage (20.7%) in the 21% to 30% positive range, and 32.9% of the active patient group showing positive quinine traces in 31% or more of urinalysis results. Thus, at least one-third of active patients demonstrate significant continued heroin use while on methadone maintenance.

This result is consistent with the last evaluation findings, at the close of FY 72-73, which indicated that 32.4% of active patients showed positive quinine traces during methadone maintenance.

Discussions with the program director, in which these findings were pointed out, disclosed that the director and the counseling staff have set a policy whereby "dirty" urine tests do not automatically disqualify a patient from the program. Rather, a number of additional criteria are considered, including cooperation with counselors and therapists, willingness to continue in the program, an enhanced degree of insight concerning drug use, and general receptivity to the program's efforts. In summary, the program staff is willing to accommodate a patient who shows evidence of "cheating" (as measured by quinine traces), as long as the patient's cheating pattern is sporadic and the prognosis is otherwise good.

Further analysis reveals that continued opiate use need not be considered the primary reason for termination. As indicated in Table 8-1, a comparison of the cheating levels of active and inactive patients discloses that the active patients display greater percentages of quinine-positive urinalyses than the inactive group. (This is not the case for another opiate, morphine, Table 8-1.) In other words, many inactives terminate, or are terminated, for reasons other than continued heroin use. Such reasons include failure to cooperate with counselors or other program staff, lack of receptivity to therapy, etc.

These findings reveal that the program staff members have adopted an extremely open philosophy concerning the goals of methadone maintenance:

it is not assumed that each patient will automatically become opiate-abstinent as a result of methadone stabilization;* sporadic cheating is assumed to be inevitable; the program staff do not react to evidence of continued heroin use by immediately terminating the patient. As indicated earlier in this report, some patients are singled out for intensive counseling, at certain periods during their program tenure. Weekly urinalysis results alert counselors to the fact that a patient needs intensive supervision and counseling during a period of heroin "cheating," which is assumed to be symptomatic of stressful interludes in the patient's life.

Table 8 also reveals that other illicit substances are used during methadone maintenance, although it is clear that the prevalence of use is less than is the case for heroin. Of the substances for which tests are made (barbiturates, cocaine, methadone, morphine, quinine, codeine, amphetamines, and methamphetamines) amphetamines and methamphetamines tend to be most in evidence. The least prevalent substance is cocaine, followed by codeine, barbiturates, and morphine, in ascending order of prevalence. (Factors related to continued use of these illicit substances are reported in the following section.)

With the exception of quinine traces, which we have noted to be significantly prevalent, indications of the use of other illicit substances appears to occur infrequently and sporadically (Table 8).

*The two schools of thought on this matter are as follow: 1) The "theory" of methadone maintenance assumes that a "blocking methadone dosage" is sufficient to prevent "craving" for heroin. 2) From the program staff's point of view, methadone maintenance is a necessary form of intervention, but it is not sufficient to eliminate opiate use.

Continued Use of Illicit Substances: The Relation to Other Variables

In this section we examine a number of variables in relation to the continued use of illicit substances (measured by urinalyses). As detailed in Table 9, in which measures of association are reported,* several discernible patterns are evident. Specifically:

- SOCIAL CLASS
 - 1) Low family occupational status is associated with the continued use of morphine and methamphetamines
 - 2) Socio-demographic characteristics
 - AGE
 - a) Relatively higher age at intake is associated with quinine traces
 - SEX
 - b) Females tend to exhibit a pattern of barbiturate and morphine use
 - ETHNICITY
 - c) Whites tend to be barbiturate users; nonwhites are associated with continued use of morphine, methamphetamines, and disproportionately demonstrate quinine traces
 - MARITAL STATUS
 - d) Marital status is unrelated to continued drug use
 - 3) Patients' socio-economic characteristics
 - EDUCATION
 - a) Low educational attainment is related to the continued use of amphetamines, methamphetamines, and quinine traces

*Each measure of association summarizes the degree to which the continued use of illicit substances is related to the variables selected for the analysis. In Table 9, 75 such associations are reported. Complete tables are not included in this report, for space reasons. Computer printouts are available from the Center for Social Policy and Community Development.

- EMPLOYMENT b) Unemployment at intake is related to barbiturate use
- TRAINING c) Specialized training is not associated with the continued use of illicit substances
- OCCUPATIONAL STATUS d) Low occupational status is related to methamphetamine use and to quinine traces
- 4) Treatment factors
 - a) Relatively higher numbers of prior treatment programs are associated with quinine traces
 - b) Numbers of prior withdrawals from opiates are not related to continued drug use
- 5) Drug use history
 - a) Relatively later onset of heroin use is associated with morphine, methamphetamines, and quinine traces
 - b) Relatively lengthy habits are associated with the continued use of morphine, and with quinine traces.

Several summary comments are in order. For all socioeconomic factors, it is the low category which is related to continued use of illicit substances during methadone maintenance. This result provides a clear indication that social service practitioners must be sensitive to the social context in which illicit drug use occurs. That is, the prevalence of this type of social deviance must be viewed as much in social terms as in terms of individual pathology. Clearly also, individual counseling and therapy must be supplemented by a wide variety of social services aimed toward the resolution of socioeconomic disadvantage. In this regard, occupational, vocational, and educational assistance should be stressed.

Within the lowest socioeconomic categories, it is clear that nonwhites exhibit the highest continued use of illicit substances. Efforts toward the provision of supportive services should be sensitive to the disadvantaged status of the nonwhite segment of the patient population.

Several additional factors require comment. It is apparent that those patients who have been through a succession of treatment programs, who have had lengthy histories of opiate abuse, and who have begun their opiate habits relatively late in life are disproportionately present in the most "serious" illicit substance abuse categories. However, it is also evident that this set of patient characteristics tends to be associated with a relatively lengthy tenure with the program (Table 10), suggesting that these characteristics are indicative of a high risk of continued drug use, but a low risk of program termination. Again, it is suggested that these older patients receive additional counseling and supportive services aimed at decreasing or eliminating observable continued drug use patterns.

Factors Related to Program Tenure

In this section we examine factors which are statistically related to continued patient status. Our information covers 114 active and 91 inactive patients.* Of the 15 variables examined, 7 are related to the "active" status category, and hence can be shown to differentiate between those who remain and those who leave the program. In Table 10, it can be seen that the typical active patient conforms to the following characteristics: low

* Program's records at the time of data collection (May, 1974) indicated that 105 patients were in the "active" category, suggesting that the program's patient files do not consistently reflect active-inactive status. The total of 91 inactives represents approximately a 50% random sample of inactive cases.

family occupational status (relative to inactives), somewhat older than inactives at intake, white, low occupational status (relative to inactives), not in possession of a skill or specialized training to the extent that inactives are, has been a patient in several treatment programs, and began opiate use at a late time in life (relative to inactives).

Factors which do not differentiate actives from inactives are: sex, marital status, employment at intake, educational attainment, criminal justice status at intake, numbers of juvenile arrests, opiate habit length, and numbers of withdrawals from opiates.

From these results, we draw the conclusion that the patient who tends to persist in the program demonstrates a discernible degree of lack of personal resources. This conclusion is somewhat tentative, since efforts to ascertain factors which differentiate "successful" terminations from "unsuccessful" cases (e.g., punitive detox, elopement, incarceration, etc.) revealed that none of the variables in the analysis were related to reasons for termination. Termination reasons are listed in Table 10-1, where it can be seen that 10% of the cases examined were defined as "successfully" withdrawn from methadone, approximately 40% are in the "unsuccessful" category (disciplinary detox, elopement, incarcerated); the remaining 20% for whom information was available were transferred or left the program following voluntary detox; termination reason in the remaining 30% of the cases was not ascertainable.*

*In addition to making analysis difficult, this large number of "don't knows" (with respect to reason-for-termination) indicates a record keeping deficiency on the part of program staff.

As we noted in our interim report, a 10% rate of "successful" withdrawals is lower than the rate reported in other methadone programs. (Note that the 10% figure is based on the total number of terminations. If the rate were based on total cases admitted to the program it would be approximately 3%.)

In summarizing this section, it appears that certain factors differentiate between active and inactive program status. Although a concise interpretation is difficult, it appears that those who persist as patients are older, more experienced in treatment programs, and relatively less occupationally skilled than those who terminate. It is our recommendation that this patient group should not be singled out for intensive counseling aimed at eventual withdrawal from methadone. There are, of course, certain risks in this recommendation, given the finding reported elsewhere in this report that patients with the characteristics noted above tend to be over-represented in continued opiate (and other drug) use. However, the general intent of this summary is to impress upon the program staff the desirability of an active approach in the resolution of the demonstrably severe difficulties encountered by the program's long-term patients.

Impact

With respect to two of the outcome measures in the analysis, employment and repeat criminal behavior, experience with the program can be shown to be of significant, and beneficial, consequence. Patients' employment rates, relative to the pre-program period, are high; arrests during program participation, when compared to patients' criminal justice characteristics at intake, indicate a decreased amount of criminal behavior.

With respect to continued drug use, the analysis of active patients reveals that heroin use (measured by urinalysis tests for quinine) continues to be in evidence. However, comparative information derived from other methadone programs (e.g., City Office of Drug and Alcohol Abuse Programs) indicates that 30% of Philadelphia's methadone patients show quinine traces at least once per month, a result which is similar to the findings reported here, and in the evaluation covering the program's FY 72-73 operating year.

The continued use of additional illicit substances is evident, but prevalences are comparatively low.

These results provide evidence that the program is effective in attaining its goals. However, the evidence of continued heroin use, on the part of some patients, is not in favor of a conclusion that experience with the program, and, for that matter, methadone maintenance, guarantees abstinence from heroin. Nevertheless, patients who exhibit continued heroin use are closely monitored, and are encouraged to continue in the program (rather than being punitively detoxed). From this point of view, the program staff provides a needed treatment resource that would not otherwise be available.

In the absence of the program, it can be inferred that many of the active patients, as well as an undetermined number of those who are inactive, would continue to be dependent on heroin.*

*Precise quantification would require a controlled (experimental) study. Further, no information on patients who have been successfully withdrawn from methadone is available. These ex-patients are not required to report to the program for urinalysis surveillance.

Unintended Consequences

In this section we discuss one of the empirical findings which we feel is of great importance. It has been noted that a substantial percentage of active patients (approximately 30%, Table 1) have been in the program for more than two years. It has also been noted that the group which tends to remain active conforms to an identifiable set of characteristics. That is, they are at least thirty years of age, have had experience with a number of treatment programs, and they are unskilled with respect to occupational and educational factors.* These findings would indicate that, as much as is realistic, long-term patients should be singled out for a reappraisal of treatment goals with a view toward successful detoxification from methadone. Further, skill training and related supportive services, as supplements to existing therapy, should be emphasized to a degree which is not now in evidence. As recommended earlier in this report, patients should not be passively accommodated but should be actively encouraged to define detoxification from methadone as a realistic outcome.

A note on "unintended consequences": the findings included in this report are interpreted to mean that certain selection factors differentiate long-term active patients from those who terminate prior to successful program completion. We have noted that these factors include skill levels, age, and treatment experience. In other words, active long-term patients are members of a selected residual category with unfavorable social characteristics which would seem, on their face, to indicate a poor prognosis.

*We have also noted that this group is most at risk for continued drug use.

Such is not the case, since it is clear that a lack of skill resources is associated with lengthy program tenure. Given this interpretation, a redefinition of patients' "success" is in order. Long-term patient status need not reflect a "favorable" patient outcome but may reflect a failure on the part of program staff to define methadone maintenance, and associated supportive services, as a means to an end. We feel that these issues are not confined to the program under consideration in this report, but apply to the general policy of methadone maintenance at the national level.

Cost Benefit Analysis

Taking the active patient group's size as 100, for FY 73-74, the cost to the program per patient is \$1896 per year, a figure which slightly exceeds the Federal guidelines (\$1700) for methadone patients. The discrepancy is explained by the fact that the program is budgeted for 125 active patients, approximately 25 less than the yearly average caseload. On balance, the cost-per-patient is in line with similar costs budgeted for other methadone programs.

V. Conclusions and Recommendations

Results of the evaluation study indicate that the program is successful in the attainment of two of the three goals which pertain to patients. Specifically, program experience is associated with restoration to the community, as measured by employment rates, and to decreased criminal behavior, as measured by arrest rates. The outcome for continued drug use is less favorable than is the case for the other two measures: heroin use as well as the use of other illicit substances, during methadone maintenance,

continues to be in evidence. We note in the body of the report that the program staff has developed a highly tolerant view of illicit drug use, and no longer define evidence of "cheating" as grounds for punitive detoxification. Rather, continued drug use is seen as symptomatic of periods of stress and an indication that patients who persist in sporadic heroin (or other drug) use are in need of intensive counseling and supervision and a reorientation toward realistic treatment goals. We concur with such a philosophy, whereby patients' cooperation with program staff and with the full range of program services is seen as indicative of a good prognosis.

An analysis of a number of selected social-demographic, socioeconomic, treatment, criminal justice history and other variables, in relation to program tenure and continued drug use, has indicated that a particular patient group, those who are in their thirties, unskilled and poorly educated, with extensive experience with prior drug treatment programs, display the greatest likelihood of long-term program tenure and the greatest risk of illicit drug use during methadone maintenance. Based on these results, it is recommended that this long-term patient group be singled out for increased efforts aimed at setting eventual withdrawal from methadone as a realistic goal. In addition, the rate of successful withdrawals from methadone is low, when compared with results in evidence in other methadone programs. The program administrator and staff should set a goal of approximately 20% per year. Currently, approximately 10% of the active patient load has been successfully withdrawn.

There must be a continued emphasis on supportive services, not only for the group which has persisted in treatment for two years or more, but for all patients. Such services should take the form of referrals to vocational and educational training facilities, motivational counseling, and related services. In this regard, program staff should continue to emphasize that methadone maintenance is but one component in a variety of interventive methods aimed at restoring patients to the community.

Continued attention should be paid to the matter of record-keeping, the accuracy of patient files, and other information-system factors. For example, in the course of preparing the present report, it was not possible to quantify patients' contacts with counselors; such information does not appear to be routinely recorded. Similarly, records of social service and related therapeutic referrals were not available.

Table 1

PROGRAM STATUS IN RELATION TO LENGTH-IN-PROGRAM

PROGRAM STATUS	Active	Inactive	Total
0 - 6	14.3%	60.4%	35.0%
7 - 12	13.4	24.2	18.2
13 - 18	25.9	11.0	19.2
19 - 24	16.1	1.1	9.4
25 - 30	30.4	3.3	18.2
TOTAL (100%)	112	91	203*

*Two cases deleted due to missing information

Table 2

TOTAL MONTHS IN PROGRAM IN RELATION TO NUMBERS OF READMISSIONS

MONTHS IN PROGRAM	MONTHS IN PROGRAM					Total
	0-6	7-12	13-18	19-24	25+	
0	94.4%	73.0%	59.0%	52.6%	78.4%	76.8%
1	4.2	21.6	25.6	35.8	21.6	17.7
2	1.4	5.4	10.3	5.3	0.0	3.9
3	0.0	0.0	5.1	5.3	0.0	1.5
TOTAL (100%)	71	37	39	19	37	203*

*Two cases deleted due to missing information

Table 3

NUMBER OF PHYSICAL EXAMINATIONS BY NUMBER OF READMISSIONS

NUMBER OF PHYSICALS	READMISSION					Total
	0	1	2	3		
1	61.3	17.1	37.5	0.0		51.8
2	23.3	48.6	12.5	0.0		27.2
3	13.3	25.7	37.5	50.0		16.9
4	2.0	5.7	12.5	50.0		3.6
5	<u>0.0</u>	<u>2.9</u>	<u>0.0</u>	<u>0.0</u>		<u>.5</u>
TOTAL (100.0)	150	35	8	2		195*

*Ten observations deleted due to missing information

Table 5

COMPARISON OF RATES OF EMPLOYMENT
AT
INTAKE AND ACTIVE PATIENTS, MAY, 1974

	Employed at Intake	Employed (May, '74)
Yes	20.6	38.3
No	<u>79.4</u>	<u>61.7</u>
	100.0 (203)*	100.0 (96)**

*Total cases (two cases deleted due to incomplete data) examined in the present analysis

**Information provided by the program (May 24, 1974)

Table 6

ARREST STATUS BY TIME-IN-PROGRAM

ARREST STATUS	TIME-IN-PROGRAM	6 Months or Less	One Year	18 Months	Two Years	30 Months	Total
NOT ARRESTED while patient		65	32	31	15	32	175
		(91.5)	(86.5)	(79.5)	(78.9)	(86.5)	(86.2)
ARRESTED while patient		6	1	8	4	5	28
		(8.5)	(13.5)	(20.5)	(21.1)	(13.5)	(13.8)
TOTAL (100.0)		71	37	39	19	37	203*

*Two observations missing due to incomplete information

CRIMINAL JUSTICE STATUS
AT INTAKE

Parole-Probation-bail

90/203
(44.3%)

ARRESTED WHILE A
PATIENT

28/203
(13.8%)

Table 7

CODING CATEGORIES FOR ILLICIT SUBSTANCE USE

<u>Code</u>	<u>% "Positive" Urinalysis Results</u>
1	0.0 - 10.0% (none or negligible)
2	11.0 - 20.0 (some)
3	21.0 - 30.0 (some)
4	31.0 + (high)
888,999	No urinalysis record, don't know, does not apply

Table 8

ACTIVE PATIENTS' ILLICIT USE OF DRUGS DURING METHADONE MAINTENANCE

	Barbit- urate	Cocaine	Metha- done	Mor- phine	Co- deine	Qui- nine	Amphet- amine	Methamphet- amine
Prevalence of use of designated illicit substance								
0.0 - 10.0% of urinalyses	79.3	100.0	0.0	78.0	96.3	28.0	70.7	74.4
11.0 - 20.0% of urinalyses	13.4	0.0	0.0	4.9	2.4	18.3	8.5	11.0
21.0 - 30.0% of urinalyses	3.7	0.0	0.0	8.5	1.2	20.7	11.0	3.7
31.0 + % of urinalyses	3.7	0.0	100.0	8.5	0.0	32.9	9.8	11.0
TOTAL N*	100.0 (82)	100.0 (82)	100.0 (82)	100.0 (82)	100.0 (82)	100.0 (82)	100.0 (82)	100.0 (82)

*The total N of 82 is comprised of all ACTIVE PATIENTS for whom urinalysis results were available

Table 8-1

COMPARISON OF ACTIVE AND INACTIVE PATIENTS
FOR QUININE AND MORPHINE

Program Status		Active	Inactive	
MORPHINE ^a	0.0-10.0%	78.0		62.5
	11.0-20.0%	4.9	21.9	13.9
	21.0-30.0%	8.5		4.2
	31.0 + %	8.5		19.4
TOTAL	100.0 (82)		100.0 (72)	

Program Status		Active	Inactive	
QUININE ^a	0.0-10.0%	28.0		36.1
	11.0-20.0%	18.3	71.9	11.1
	21.0-30.0%	20.7		11.1
	31.0 + %	32.9		41.7
	100.0 (82)		100.0 (72)	

^aCategories coded per Table 7

Table 9

Relations (Kendall's tau-b coefficient of rank order association) of selected social, criminal justice, treatment, and drug history variables to illicit drug use during methadone maintenance
(ACTIVE PATIENTS ONLY)

	Family occupational status (blue-collar vs other)	Age at intake (20 or less/21-30/31-40/41 +)	Sex (male vs female)	Race (white vs nonwhite)	Marital status (never vs ever)	Employment at intake (No vs Yes)	Education (H.S. and below vs other)	Occupational status (blue collar vs other)	Specialized training (Yes vs No)	Criminal justice status at intake (parole-probation-bail vs none)	Juvenile arrests (none/1/2/3+)	Prior treatment programs (none/1/2 +)	Age first opiate use (15 or less/16-18/19-21/22-24/25 +)	Habit length in months (12/24/36/48/49+)	Number of withdrawals from opiates (none/1/2/3/4/5 +)
Barbs	-.04	.04	.20*	-.11**	.02	-.13*	.04	.05	-.06	.06	-.08	-.04	.06	.09	-.00
Morphine	-.11**	-.01	.26*	.12*	.09	-.06	-.04	.04	-.04	-.10**	.01	.03	.16*	.13*	.03
Quinine	-.05	.18*	.08	.27*	.15*	-.05	-.12*	-.11**	-.09	-.10**	.02	.23*	.10**	.22*	.02
Amphet	-.04	.02	-.06	-.02	.05	-.04	-.16*	-.05	-.05	.04	.07	.05	.09	.06	.07
Methamphet	-.20*	.05	-.08	.14*	.02	-.01	-.22*	-.21*	-.05	-.08	-.07	-.08	.10**	.00	-.02

*Coefficient significant beyond Alpha = .05

**Coefficient significant beyond Alpha = .10

Table 10*

Relations of selected socio-demographic, criminal justice, treatment, and drug variables to continued program tenure

	Tau-b	p<	Category associated w/"active" status
Family occupational status	.10	.01	LOW
Age at intake	-.11	.001	30-39
Sex	-.03	NS	---
Race	.08	.05	WHITE
Marital status	.05	NS	---
Employment at intake	-.04	NS	---
Education	-.07	NS	---
Occupational status	.28	.001	LOW
Specialized training	.12	.01	NO TRAINING
Criminal justice auspices at intake	.00	NS	---
Juvenile arrests	.07	NS	---
Numbers of prior treatments	-.09	.04	3 PROGRAMS
Age of first opiate use	-.13	.003	OLDER
Habit (opiate) length	.02	NS	---
Number of withdrawals (opiate)	.04	NS	---

*Reported measures of association are Kendall's tau-b (coefficient of rank order association) with appropriate test of statistical significance

Table 10-1

REASONS FOR TERMINATION

	N	%
Successful withdrawal	9	10.0%
Disciplinary detox	16	17.8
Elopement	9	10.0
Incarcerated	10	11.1
Voluntary detox	4	4.4
Transferred	14	15.6
Never accepted	1	1.1
Don't Know	27	30.0
TOTAL	90	100.0%