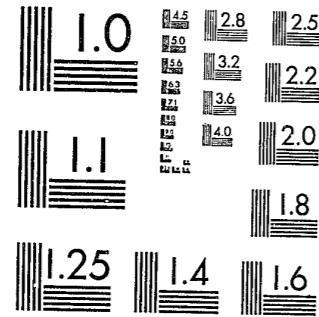


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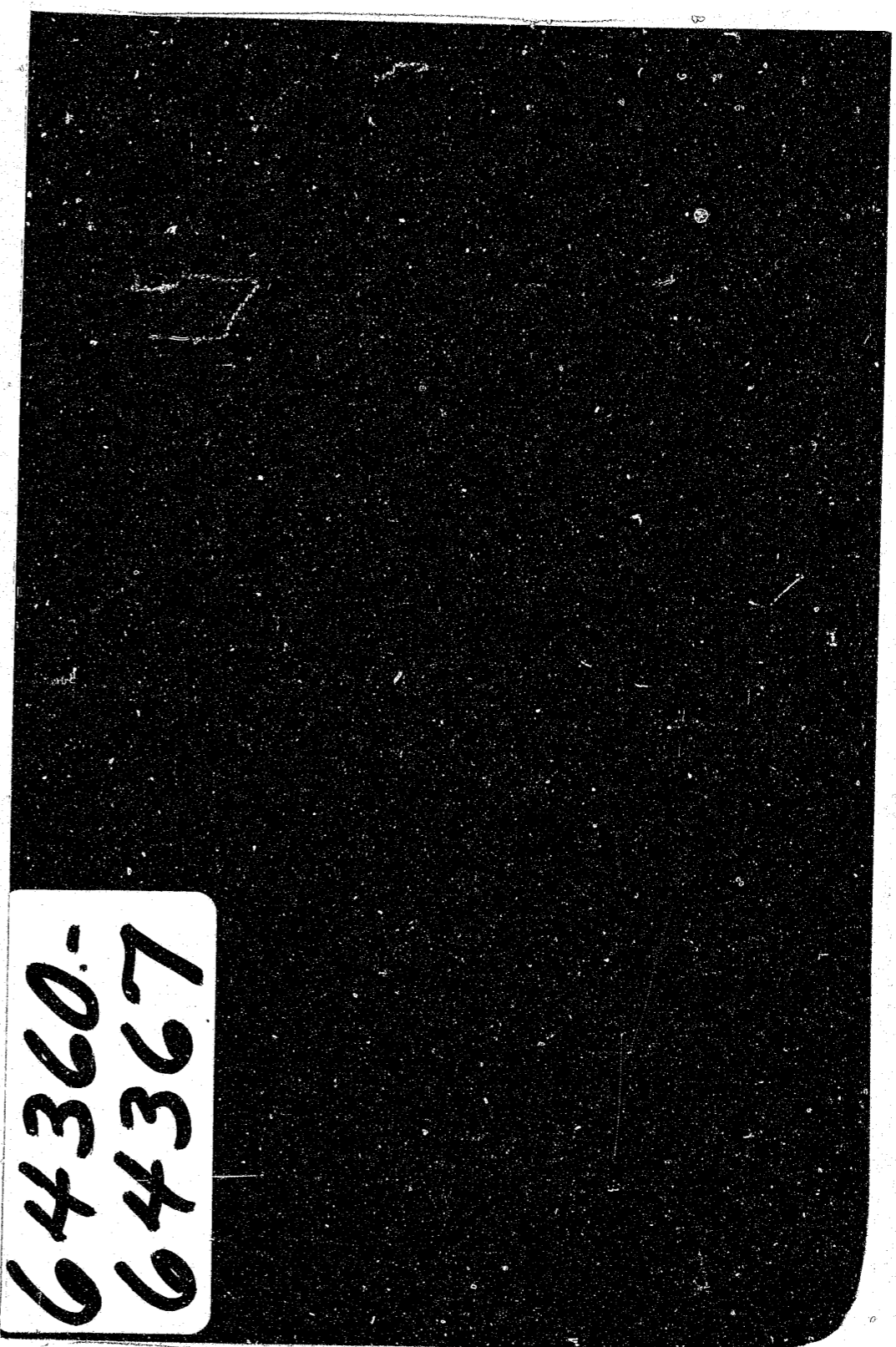
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**Management
Information
Systems
in the
Drug Field**

NCJRS

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Edited by **ACQUISITIONS**

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3.

A Case for Management Information Systems

Helping the Manager Make Decisions Regarding Difficult Resource Allocation Problems

Edward Leibson, Ed.D.

INTRODUCTION

The managers of drug abuse treatment programs, like the managers of most businesses,¹ bear significant responsibility for resource allocation. Indeed, it might be said that the essence of management is the making of decisions regarding resource allocation thereby leading the program toward its goals and objectives. In the drug abuse treatment setting this is an awesome task complicated by a number of factors:

- Scarce resources: Managers must cope with chronic shortages in resources, for example:
 1. Staff resources: Trained staff who are willing to work for the typical wages at drug abuse treatment facilities are scarce. The strains of working with a recalcitrant population leads to early "burnout" unless the staff is supported by reasonable schedules, timely and constructive feedback, rewards, positive experiences, and so on.
 2. Volunteer resources: Volunteers, so vital to the survival of many treatment programs, are notoriously fickle and difficult to plan with.

¹It has been said that business and government are alike in all unimportant respects. Business managers are expected to profit personally from their efforts. Government managers are likely to end up in jail if they make a profit. And so the system of motivation varies tremendously between the two sectors.

3. Facility resources: Space, equipment, and supplies are always at a premium.
4. Community and political resources: The treatment center must be constantly apprised of the community and political forces that support the program with money, in-kind donations, public relations, services, and referrals because the competition for these resources is keen.

- Uncertain demand: The demand for drug treatment services cannot be easily predicted but fluctuates in response to seasonal factors, drug availability, street attitudes, peer pressure, alternatives to care, and so on.
- Difficult consensus: Because the treatment center works with a chronic population and because its goals and objectives deal with intangible and unquantifiable commodities, the program administrator is hard pressed to parcel out the proper "amount" of a resource to achieve a specific "level" of outcome. The manager must handle resources through intricate maneuvers to keep the program alive.

The purpose of this chapter is to demonstrate how information--particularly the information derived from a management information system (MIS)--can assist the clinic administrator to procure, allocate, and redeploy limited resources in the most logical and efficient manner.

The ability to understand and use an MIS requires neither a massive training effort, a computer, nor a host of forms and procedures. At bottom, an MIS is a formalized method of collecting and reviewing data. A simple bed count or a routine telephone debriefing about client status upon discharge may constitute part of the MIS. This chapter will demonstrate how the routine data available to most administrators can help in meeting the resource allocation challenge.

THE VALUE OF MIS TO DRUG ABUSE TREATMENT MANAGERS

In the ideal situation, clinic administrators operate their programs on the basis of "behaviorally described and measurable objectives." These are objectives which specify what activities (behaviors) are to be performed (e.g., staff will conduct intake interviews) and which also state in explicit quantitative terms how often, how many, and to what extent the activity is to be carried out (e.g., each staff member will conduct 60 intake interviews a month, each lasting 1 hour). The MIS should provide the administrator with the tools to measure the monthly, weekly, daily (and possibly even hourly) investment of resources in each objective and the resulting progress that is made.

Frequently NIDA programs express objectives in terms of "static" and "dynamic" capacity, i.e., projected utilization rates. A static capacity is defined as the number of clients in treatment at any point in time; the dynamic capacity is defined as the number of individuals in treatment during a period of time and is a function of the static capacity and the turnover rate. For example, a program with a static capacity of 100 and a turnover rate every 3 months will have a dynamic capacity of 400 per year. Sounds like a pretty specific objective--right?

Wrong! This defines only one parameter (i.e., projected utilization rate) of the treatment program. One also needs to specify the type, scope, and quality of the services to be provided; the capability of staff to deliver such services; projected treatment outcomes; community support; and management and fiscal strength.

Even without specifically articulated objectives, program administrators may have an intuitive sense of the program objectives and the types of activity that will lead to those objectives. For example, administrators know that a booth at a State fair will increase the community's awareness of the clinic and thus increase referrals. In fact this may be so but unless this technique is compared to another, the administrator will never know whether an investment of the same resources in the local jail or probation department would be more productive.

What then are the types of readily available data required by the administrator to measure the investment of resources into specific program goals and objectives? Data needs vary according to specific program objectives, but at a minimum administrators will profit from the data sets described below.

Staff Activity

The type of staff and the hours required to carry out program activities vary with the type of service provided. In general administrators will find staff activity data useful in developing work schedules, designing training courses, assessing the quantity of care, and assessing staff workloads. For example, the administrator may want to know the level of staff activity for the following cost or activity centers: a division, a department, or a subdivision of a treatment program; a group of services; a group of employees; or any other type of subclassification within which functions of an institution are logically grouped for purposes of cost allocation.

- Outpatient services: number and duration of services, by personnel type
- Inpatient services: number and duration of services, by personnel type
- Residential services: number and type of services, by personnel type

- Methadone services: number and dosage of units dispensed as well as the number and type of pharmacy, medical, and nursing services provided, by personnel type
- Crises services: number and duration of phone, drop-in, or other intervention services, by personnel type
- Referral services: number and type of placement services, by personnel type
- Education, information, and training services: number and duration, by personnel type. These include services dedicated to informing all types of groups, and providing "primary" and "secondary" prevention services.

Appendix A contains a detailed list of activities used in the automated information system in Wayne County (Detroit), Michigan, to record staff activities. Figure 1 illustrates the categories of staff activity that may be reported in connection with various services.

Client Data

In order to allocate resources adequately among the services and cost centers of the program, the manager must know how many clients are currently in treatment, the rate of admission, and other client characteristics. Thus it is important to know (on a monthly, weekly, or daily basis):

- The size of the caseload: The size of the caseload for both the entire program and the cost centers will tell the manager when the program (or cost center) has reached its saturation point. It will also reveal inappropriate allocations among cost centers. For example, assume that the caseload in the intake cost center is at its maximum. The caseload at the methadone cost center has not reached its peak and, although more clients could be accommodated, the program will only be able to admit clients who do not need intake services to complement methadone treatment. The intake service has become the "limiting factor" in the treatment program while available resources in other cost centers lay idle.

The size of the caseload can be computed from a data set that includes at least:

1. Beginning caseload: How many people were in treatment at the beginning of the period?
2. New admissions: How many people entered treatment for the first time during the period?
3. Readmissions: How many people were admitted to treatment who have been in treatment before (at this or other clinics)?

Wayne County Department
of Substance Abuse Services

STAFF ACTIVITY

There may be a number of discrete staff activities for each type of service, and these may vary somewhat among programs. Each program must divide up (and clearly define) the discrete units by which staff activity is to be measured. For example:

<u>UNITS OF SERVICE</u>	<u>STAFF ACTIVITY</u>
Number of patient days	Total direct service hours
Hours of therapy	Hours face-to-face with clients
Doses of methadone	Total direct service hours
Crisis intervention	Manning hours
Education	Hours face-to-face with clients
Referrals or intake	Manning hours

These data can be aggregated monthly and on a year-to-date basis to derive a ratio of staff activity per unit of service. Similarly, the variance between the actual and planned staff activity can be completed.

FIGURE 1.—Categories of staff activity reported in connection with related services.

4. Terminations: How many people elected to conclude treatment or were terminated by the program?
5. Closing caseload: How many people were in treatment at the end of the period?
6. Delinquent cases: How many people are still on the rolls but have not presented themselves within x period of time?

Caseload Data

Such data items as client demography and current treatment status, drug history, criminal justice experiences, etc., can only be collected client by client and then aggregated periodically. For example, the client's legal status may have a significant bearing on the treatment approach (i.e., resources allocated to treatment) and the administrative approach (i.e., resources allocated to establishing liaison with the criminal justice system). At a minimum the manager needs to know how many clients are 1) participating in a pretrial prosecutor's diversion program, 2) released on recognizance, 3) on presentence diversion, 4) deferred to probation and treatment, 5) on early prison release, or 6) on parole. Routinely collected CODAP data provide much of the basic data required as a baseline for trends in client characteristics, and these data categories can be supplemented to reflect unique program concerns.

Daily Client Scheduling Data

But the number of individuals (unduplicated count) enrolled in the program over time is not sufficient. Suppose that two clinics each have 100 clients enrolled; if clients come to Clinic A three times a week and to Clinic B every day, the implications for resource allocation are quite different. It becomes important, then, to keep a daily count of clients actually seen by different service components. This provides insight into the size of the caseload per staff member and enables a comparison between time allocated among the various services. It is also important to compare the clients seen on a daily basis with the clients scheduled to be seen and with staff potential. This will provide some indication of staff productivity and the adequacy of the scheduling system. The difference between clients seen and clients scheduled can also suggest an examination of client satisfaction.

Financial Data: Budgeted and Actual

The budget is an essential data set for the clinic manager because it provides broad operating parameters. It can be used to set out objectives and to apportion the available fiscal resources among them. In so doing it creates a bridge between the financial resources and the other resources (human, material, etc.) required to accomplish objectives.

Throughout the fiscal year, financial status reports indicate progress vis-a-vis budgeted expenditures and revenues. In a sense the difference between the budget and the financial status report is like the difference between the appointment schedule and the daily count of clients: one is a plan, the other is a report of actual activity.

Space, Equipment, and Other Material Resources Data

Space, equipment, and other material goods must not be overlooked in the discussion of deploying limited resources. And so information systems should include data on:

- Space assignment per activity (e.g., square feet per cost center).
- A supplies-utilization summary by cost/activity center.
- Communications and duplication charges by cost center or activity.
- An inventory of equipment assigned by cost center.

These data compared with program goals and objectives will shed light on the appropriateness of resource allocation.

Client Progress Data

Improvement during treatment should be recorded according to some systemwide accepted measure for each client. Indicators of educational achievement, vocational rehabilitation, employment, drug abuse, and level of functioning should be collected at intake or soon after and updated on a periodic basis. A number of indicators such as urinalysis results or length of time in treatment can also be used to trace change over time. These data will serve two purposes. It will enable the treatment center to track individual client progress, to tailor treatment to the client's changing needs, and to assure continuity and appropriateness of care. Secondly, data about all clients may reveal certain patterns of treatment that result in the most desirable client changes or outcomes and these suggest a direction for overall program policy.

INFORMATION AVAILABLE FROM DATA SETS: THE BASIS FOR MANAGEMENT BY EXCEPTION

As a means of focusing management attention (resources) on the most important sources of data and reports, the manager should review information that reflects exceptions to or variations

from anticipated results. Commonly called "management by exception," this approach requires two basic ingredients:

- A baseline, budget, objective, or other measure of anticipated or planned level of outcome.
- Report formats or information protocols that highlight these variances or exceptions so that the manager need not wade through volumes of irrelevant data to find the important kernels.

Routinely collected data can be aggregated in numerous ways to provide an overall understanding of where resources have been and should be allocated. Because the possibilities for generating information are limitless, a few examples are offered as a basis from which the reader can construct information most germane to his/her own program.

Example 1: Daily Bed Count

As a first example, take a simple area such as bed count in a residential program. Data can be collected by counting the number of occupied beds in the residential unit. To assure consistency and comparability of data over time, certain definitions should be established as to whether a bed is indeed "occupied," e.g., pass and AWOL status, or simultaneous membership in another subunit or program. The bed count should be taken at the same time each day such as 12 midnight.

Example 2: Daily Count of the Number of Clients Served

This count, compared to the number of people the program planned to serve will indicate whether the program is over or understaffed. A ratio, broken down to reflect the various cost or activity centers of the program, will go even further indicating the appropriateness of the balance of resources among cost centers. The following formula indicates how it is computed:

$$\frac{\text{Actual beds used}-\text{planned beds used}}{\text{Planned beds used}} \times 100 = \text{Percent variation}$$

Simply subtract the planned occupancy rate from the actual number of occupied beds and divide the remainder by the planned rate. This amount, multiplied by 100, produces the percentage of variation. Thus a therapeutic community with a planned occupancy of 75 beds which actually had only 60 beds filled would have experienced a negative 20 percent variation as shown in the calculations below:

$$\frac{60-75}{75} \times 100 = -20\%$$

This means that for a particular day the program was 20 percent below plan. The trends of daily data can be reviewed over time to provide a picture of improvements or declines. Or the daily statistics can be aggregated to provide an indication of when operations are getting out of control. This example can be pursued further to reflect a full month. If the month has 30 days and the program has a planned occupied bed rate of 75 beds each day, this is 2,250 bed-days per month. An actual count each of 30 days revealed between 55 and 75 beds occupied with an average of 70 beds occupied. Using the formula, we see that the bed occupancy was down by only 6 percent for the entire month, a different (and more accurate) picture than the data for a single day:

$$\frac{2,100-2,250}{2,250} \times 100 = -6\%$$

The clinic manager must review the variances to determine their implications--implications for excess staff, for utilization of equipment and supplies, for space requirements and, of course, for the influence on the revenue-generating capacity of the facility.

Example 3: Capacity

Another helpful concept is "capacity"--the maximum number of services that can be provided with the available resources of staff time, equipment, space, and supplies. The relationship between capacity and planned services is this:

- The planned services should never be in excess of the maximum capacity (by definition).
- The capacity may be slightly larger than the planned number of services to allow for peak contingencies.

Managers may want to keep track of the changes in their capacity using the following formula:

$$\frac{\text{Actual capacity}-\text{planned capacity}}{\text{Planned capacity}} \times 100 = \text{Percent variation}$$

For example, if the capacity of a therapeutic community is 80 (i.e., there are 80 beds) and several beds have to be removed for repair, the following information about capacity can be obtained:

$$\frac{78-80}{80} \times 100 = -2.5\%$$

Obviously this minor negative capacity figure is of little concern if planned services were slightly less than the maximum capacity. The variations should be monitored over time.

Example 4: Utilization Statistics

On the basis of the information about services provided and capacity, it is possible to compute information about utilization using the following formula:

$$\frac{\text{Units of service}}{\text{Capacity for service}} \times 100 = \text{Percent utilization}$$

This information can be calculated against planned or actual data as shown below:

Given:

Bed-days	Actual	Planned
Units of service	(a) 2,100	(c) 2,250
Capacity	(b) 2,370	(d) 2,400

Then:

Bed resources	Actual	Planned
Percent of utilization	¹ 88.6	² 93.7
	¹ $\frac{a}{b} \times 100.$	² $\frac{c}{d} \times 100.$

The utilization variance can also be computed using the following formula:

$$\frac{\text{Actual utilization} - \text{Planned utilization}}{\text{Planned utilization}} \times 100 = \text{Percent variation}$$

Each treatment center manager must decide upon the tolerable variance levels. Under management by exception, the manager need only be concerned when variances exceed the established levels.

Example 5: Financial Data

It is a relatively simple process to compute an array of variances of expenditures and revenues to determine what the current and year-to-date financial status is. The figure below shows several items from the budget (planned) and the accounting data (actual)

for a single month and for a year-to-date period. It also illustrates how the variances are computed:

Given:

Item	Actual	Planned
Expenditures for salaries (current month)	(a) \$38,920	(b) \$37,500
Expenditures for salaries (year to date)	(c) 79,420	(d) 75,000
Revenues from title XIX (current month)	(e) 23,000	(f) 24,000
Revenues from title XIX (year to date)	(g) 27,000	(h) 48,000

Then:

Item	Current Percent	Year to date Percent
Expenditure variances for salaries	¹ +3.7	² +5.8
Revenues from title XIX	³ -4.1	⁴ -43.7
	¹ $\frac{a-b}{b} \times 100.$	³ $\frac{e-f}{f} \times 100.$
	² $\frac{c-d}{d} \times 100.$	⁴ $\frac{g-h}{h} \times 100.$

Notice several things about this information:

- A positive expenditure variance reflects an unfavorable situation (i.e., the program spent more than it intended to) whereas a positive revenue variance reflects a favorable situation (i.e., the program earned more than it intended to).
- The importance of knowing not only current but year-to-date information is pointed out by the radically different revenue variances for the current year to date. The program administrator who had only current data might be lulled into complacency by a small variance when in reality the year-to-date picture reflects a very serious revenue short-fall. Because the third party reimbursements come at an unpredictable rate, the use of this technique can be especially helpful.

In conclusion, by having simple variance figures available, the clinic manager will be aware immediately of exceptional situations and will be able to determine whether resources are being consumed in the amounts and for the activities planned and, by implication, whether the program is exceeding or falling short of its goals and objectives. Table 1 summarizes the variances discussed in this section for a single month and a cumulative period. Closer examination of this information will determine if variances are "random" or part of a trend.

By reviewing such an array of data, the manager can tell which situations are extraordinary and need immediate attention. In this case, the sharp discrepancy between planned and actual title XIX revenues provide warning that an "exceptional" situation is confronting the program.

A similar report can be prepared for any indicator that the manager feels is important enough to control. For example, the unit of service (bed-days) used above is a very simple one and could be substituted for or complemented by such diverse elements as number of patient-days, hours of therapy, doses of methadone, number of crises contacts, number of educational contacts, number of referrals, and so on. When there are unexpected differences between planned and actual results in basic indicators, the various ratios derived from those items should be studied and the year-to-date and the current month's variance compared. Furthermore one must determine the seriousness of such differences by comparing ratios. If units of service and capacity are both above or below planned, it is a less serious problem than if unit of service is above planned and capacity is below planned. Similarly, when one reviews expenditures and capacity, a difference is less serious if both variances are both above or below planned than if expenditures are above and capacity below. The converse would be in comparisons between revenues and expenditures. If there is an above-plan variance of revenues and a below-plan variance for expenditures, the situation obviously is not serious but fortuitous. In short, meaningful analysis of direction of variance, year-to-date trends, and comparisons between the units of measure can give the manager a substantial basis for decisions.

ASSISTANCE THAT MANAGEMENT INFORMATION CAN GIVE IN MAKING RESOURCE ALLOCATION DECISIONS

By having an MIS (with planned as well as actual activity levels) each individual staff member can know how many units of service he/she is expected to produce and can review actual data to determine how closely the actual activity reflects the planned or expected activity. A simple log, such as that shown in appendix B, can be used to collect the actual staff activity data. Likewise, staff activity data allow the manager to assess the time the staff members are devoting to activities and if these activities are appropriate. When an MIS is not in place, misallocation of time

TABLE 1.—Summary of variances for a single month and for a cumulative period

Unit	Current month			Cumulative month to date		
	Actual	Planned	Percent variance	Actual	Planned	Percent variance
Units of service (bed-days)	2,100	2,500	-16	4,188	4,500	-6.9
Capacity (bed-days)	2,370	2,400	-1.25	4,740	4,800	-1.25
Staff activity (number)	2,560	2,029	+26	5,120	4,058	+26
Utilization of bed-days (percent)	88.6	93.7	-5.4	88.3	93.7	-5.8
Salary expenses	\$38,920	\$37,500	+3.8	\$79,420	\$48,000	+65.5
Title XIX revenue	\$23,000	\$24,000	-4.2	\$27,000	\$48,000	-43.8

and misuse of professional talents may occur without the knowledge of the manager. This may cause frustration and inefficiency when clinical staff become responsible (de facto) for activities that are not their primary or most logical responsibility. When an MIS is in place, the manager can plan in advance to have appropriate services and staff skills available, can assign staff to appropriate activities, and can reduce frustration.

Even in the smallest program it is difficult for the manager to understand by him/herself what is happening throughout the program; the manager may "miss the forest for the trees"; that is, he/she may fail to comprehend details such as: number and type of services provided, number of staff activities by staff category, client characteristics at a point in or over time, and use of nonstaff resources. By collecting information in a routine and organized fashion, managers can build composite pictures of all aspects of the program. These will help distribute workloads on an equitable basis including planning for peak and slack periods, vacation, sick days, holidays, and emergency situations. For example, seasonal patterns may emerge over time. Knowing that the caseload will drop in the summer, the administrator can authorize vacations without concern or increase outreach and casefinding activities. This information also offers an opportunity to review individual clinical staff performance and can be a springboard for individual and programwide self-evaluation. The data may suggest a need to reorder individual or program priorities and thus to redeploy personnel and other resources.

Promotions within organizations usually depend upon opinions regarding the capabilities of the individual staff members. Few organizations (within either the drug abuse field or the business community) have meaningful staff evaluations. Fewer still conduct these evaluations on the basis of mutually agreed upon quantified objectives or quantified evaluative data. Agencies that offer promotions capriciously discourage competent individuals by denying them recognition and sanction less competent individuals. Mediocrity is encouraged unless promotions are tied to staff performance. As a manager one can set forth specific quantified objectives toward which each staff member can strive and against which each can be judged. Although qualitative factors cannot be excluded, quantified criteria give the managers information that is frequently absent when promotions are considered. The manager need not then depend solely upon memory to assess and compare the amount of effort each staff member invested in the job.

Clinic managers have long been aware that simply assigning equal numbers of clients to each staff member does not result in an equitable distribution of work. Some clients have more problems than others. Some require many more services and some are more dependent or less responsive than others. Clients may not show up for assigned therapy, thereby wasting staff time. The result is that assigning a specific client matrix to each staff member may cause differential staff activity. This in turn produces different levels of productivity. By compiling information about the actual units of service provided to each client and about the activities

(workloads) of each staff person, the manager can determine the relative client load for each staff member and the variance in workloads created by different types of clients. He or she can then sit down with each professional or program unit and arrive at reasonable and equitable caseload and other workload assignments. If, for example, one counselor is faced with a consistent pattern of clients who do not show up for appointments, one of two things could be operating: the counselor "turns clients off," or the recalcitrant clients gravitate to (or are assigned to) that counselor. The manager can then either redistribute the caseload or assist the counselor to upgrade his or her skills. Either tactic would enable the manager to develop more realistic plans and thus reduce the percentage of "noshows."

By collecting data regarding amounts and types of supplies, space, equipment, and other resources allocated to each cost or activity center, the program manager can determine whether resource utilization parallels program objectives. For example, the program manager might find that twice as much space and 50 percent more supplies are being invested in the methadone component than in the counseling component. If counseling is a program priority--and if it is suffering from cramped quarters--the manager is alerted that an adjustment is necessary.

IMPLEMENTING THE MIS: BARRIERS AND STRATEGIES

With such compelling reasons for turning to management information for assistance, why does the installation and use of an MIS seem to many programs to be so difficult? This section discusses some common barriers to MIS and offers suggestions for their solution.

Confusion Between MIS and Computers

By the time computers had developed to the third or fourth generation of equipment, the "magic box" or the "black box" myth was well entrenched and it became common to hear that information systems should be automated: "Manual processing is strictly from the Stone Age and no manager worth his/her computer-generated paycheck should be tied down by it. It is wise to automate as early, as extensively, and as intensively as possible." Based on such sentiments, managers have been led to equate an MIS with a computer. The fears of technical language and of complex and unfathomable mechanical equipment cause many in the field to avoid contact with this management information tool altogether.

This is unfortunate. First, the idea that an MIS must be automated is incorrect. Simple manual MISs can serve as effective and rich resources for management purposes. Second, computers--when they are appropriate--need not be overwhelming and technologically terrifying although managers should be prepared to

spend some time becoming fluent with the technical vocabulary and the basic functions of computer installations. The technology for accomplishing the data-processing task should assist in MIS management--not hinder MIS use altogether. (See chapter 6 for a detailed discussion of automation alternatives.)

Resistance and Fear

When an agency staff agrees on a series of quantified behavioral objectives, they establish a baseline for evaluation. Since the failure to reach these objectives or sometimes even their publication can place the manager, the agency, or the staff in a bad light, all three tend to develop paranoia about objectives. These feelings--prevalent in all endeavors--are exacerbated in an environment where the request for professional accountability is considered an encroachment on professional integrity. Indignant responses are often evoked from clinical personnel who are asked to plan the time required for face-to-face contact or to report details of their hourly activity. Moreover, many administrators pride themselves on their intuitive judgment and are suspicious of "hard data" without which they have made do in the past. Managers must be taught to make effective use of sound data for policy and operational decisions. This requires overcoming their protective instinct to ignore anything that puts their programs in a bad light (e.g., data that criticize existing efforts or point to new, possibly more fruitful areas of endeavor that are outside the administrator's competence or interest).

In addition, administrators resist collecting data because they fear that it will be used against them by the existing political structure to negatively evaluate, limit, or even eliminate the program. They then throw up a series of barriers just in case the evaluation turns out less than positive.

The resistance phenomenon has been characterized by the following hypotheses:

- The greater the perceived threat to the manager's or client's positive self-concept, the greater the resistance to negative findings.
- The greater the distance between the manager's concept of social reality and the actual data collected, the greater the resistance to further data use.
- The greater the saliency to the client of the function for which data are assembled, the greater the resistance.

The picture of the manager who loves to respond to a crisis and likes to "shoot from the hip" is the picture of a manager who will resist an MIS. Management by MIS requires:

- Established target levels for performance; an acceptable deviance or variance range; and an understanding of the possible responses necessary to correct deviant situations.

- A willingness to face critical evaluation and change.
- A mutual trust and sense of partnership among the various actors in the treatment scene--the clinical staff, the clinic manager, and city, county, State, and Federal drug abuse treatment officials.

Questions About the Integrity of the System

Since data collection is usually conceived as meaningless or counter-productive work, persons assigned these tasks are rarely given adequate training or supported by positive attitudes. This in turn leads to careless work and to questions about the reliability of the data and the integrity of the entire system. A measure of the interest an agency takes in data collection is the amount of time devoted to training personnel in the process of data collection and the status of the individuals involved with it.

Many agencies assign untrained clerical personnel to the task of collecting and tabulating data or require that professional personnel squeeze these "unimportant" tasks into an otherwise full schedule. Since a low priority is assigned to these tasks, little value is placed in the contribution of the data to the well-being of the program and the data-collection work is monitored infrequently. If the same concern was expressed over the payroll, the entire staff would be in an uproar over major errors in data collection and data conversion into information in the form of inaccurate paychecks!

Cynicism Created by "Imposed" Systems

Because of the way in which the drug treatment industry has evolved, most clinic manager had their first taste of MISs when a system was imposed on them from above by city, State, or Federal officials. These early systems were not intended to meet local treatment center needs but those of public policymakers and funding agencies and so the clinic manager found these systems unhelpful and burdensome. Unfortunately these early (and in many cases continuing) experiences created stereotypes about the nature of MISs in general. All management information became branded as superfluous, unreliable, and impractical.

Managers must learn to distinguish between information that has immediate local relevance and information that may have relevance two or three tiers away. Because the latter is not desired does not mean that the former cannot be very useful.

Resistance to Paperwork

"I am a professional. Taking time from my professional day for recordkeeping is demeaning. Recordkeeping wastes time that should be spent working with clients." This a common lament.

Paperwork is equated with busywork; recording professional activity is looked upon as an invasion of professional privacy.

In fact though, professional ethics and good client treatment--not to mention third-party payers, and management legal requirements--demand that professionals maintain individual clinical records. A careful recording of staff activities simply recasts this required information into a more useful format, enabling the manager to treat the individual staff members as a team. It remains for the clinic manager to develop protocols and procedures by which only the most valuable information can be collected in the most efficient manner. The manager can minimize, but not eliminate, the paperwork burden.

STRATEGIES FOR ELICITING COOPERATION FROM CLINIC PERSONNEL

With all the interest in developing MISs and overcoming barriers to sophisticated management techniques, a repertoire of strategies for overcoming resistance is evolving. A few of these techniques are discussed below; in addition, the reader should review chapter 4 for a more expanded discussion of this topic.

Tangible Rewards

Managers can build confidence in MISs if the latter are used to bring about tangible improvements in patient treatment and staff working conditions. MISs can be used to strengthen the patient scheduling system: if a review of management information indicates that few clients come to the clinic earlier than 11 a.m. except on Saturday, a decision might be reached about altering clinic hours. This action would have the multiple benefits of 1) increasing staff productivity, 2) expanding the number of clients actually treated by the program, and 3) reducing the amount of waiting time for attention. All of this will go a long way toward reducing tensions within the clinic and improving staff morale.

Evidence That the Data Are Used in Decisionmaking

There must be continuing evidence that the data are used for decisionmaking. Unless the clinical manager understands and actually uses the MIS, the staff will not be motivated to collect the data. Clinical staff should have evidence (through reports, staff meetings, and bulletins) indicating which data are useful and how those data have been employed. For example, if an ever-increasing number of admissions is documented by the MIS data, staff will expect to see a positive response--either the creation of a waiting list to lighten their caseloads, establishment of a referral system to divert some of these admissions, or an

increase in staff. Perpetuation or intensification of an intolerable system--in the face of documentation that the system is intolerable--will discredit the documentation.

Feedback to Staff

If the data from the MIS are fed back to staff members in a meaningful way, the data-collection system will improve. Clinic staff must get feedback regarding:

- The perceived accuracy of the data
- The actual or potential utility of the data
- The implications of the data for the overall program goals and objectives

If the clinic is made up of several departments, it is extremely important that a total clinic report be produced for review by staff throughout the clinic. For clinics with a relatively small staff, it is recommended that an hour per month be set aside to review the relevance of the MIS output. Without such mechanisms for feedback, the staff will not perceive the relationship between the data and the other program goals and objectives.

Technical Assistance to the Staff

Technical assistance must be provided to the clinical personnel so that they can interpret MIS reports. The staff will need to learn about trend analysis, variance analysis, ratio analysis, and other analyses available by virtue of the MIS. The staff will see the value in the data-collection activities if they understand the significance and implications of the resulting reports. For example, if a counselor reads that there is a minimum variance in the expenditure rates for the month or that the units of service are increased while the staff activity is stable, there will be no cause to "jump for joy" unless the counselor also knows:

- That the program was in severe financial difficulty and it implemented a program to curtail expenditures. The program now appears to be a success which means that the level of service can be maintained and staff salaries will not have to be cut; and
- The relationship between units of service and staff activity. In this particular case the trends indicate increasing productivity with an associated increase in revenue resulting from the rising units of service (of which many are billable).

Economy in Data Collection

A sure-fire way to make an MIS fail is to build in duplication and overlap. One pitfall to avoid is asking for endless information that will be of little if any use. Each data element contained in the MIS should be needed, not just "nice to know."

SUMMARY

Introduction of an MIS promises no certain work reduction either for clinical or administrative-clerical staff. It does not remove the manager's critical resource allocation problems, to be sure; it merely provides information on the basis of which the manager can carry out these important responsibilities. In fact, the installation and use of an MIS may produce more work for managers. However it is the thesis of this chapter that management decisions rendered on the basis of informed judgment are more appropriate than decisions rendered on intuitive judgment alone. Investment in an MIS that has meaning for the clinical staff will reward the clinic as a whole, supporting better management of limited resources, improved client services, equitable workloads, and objective criteria for measuring staff and client growth. The achievement of these goals can be accomplished with the assistance of an MIS, a technology which is becoming increasingly necessary for clinic managers in drug abuse treatment centers to insure the very survival of this system of care.

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Appendix A

Sample Staff Activity Codes

From the Wayne County Automated
Information System

STAFF ACTIVITY CODES FOR ISAMIS¹

GENERAL INFORMATION

Several new activity codes have been developed to reflect units of service and staff activity (manning hours) levels required by ISAMIS reports for Specialized, Supervised, Methadone, Crisis and Intake-Referral modalities.

SPECIAL ACTIVITY LOGS

A special Agency Staff Activity Log must be maintained to record patient-days (030 and/or 040) and methadone doses (050). These Activity Logs are identified by filling in a worker ID of 999-99-9999. Inpatient days or methadone doses are recorded in the Client ID field. Number in group and time-code fields should be left blank.

NEW ISAMIS ACTIVITY CODES

The following are new activity codes to record ISAMIS reporting requirements.

SPECIALIZED CARE MODALITY

035 Specialized Care Direct Staff Hours: Report the total direct staff hours that staff spend in providing services in the specialized care modality. The total staff hours should include all of the time that a doctor, nurse or counselor spends in doing activities relating to the services of the patient care or related activities.

¹ISAMIS is a manual MIS developed by Touche-Ross for the Michigan Department of Health. The acronym stands for Integrated Substance Abuse Management Information System. Wayne County has automated the system and the codes presented here are Wayne County codes.

- 030 Inpatient Clients: Report the number of beds being occupied by a patient each day in the hospital or residential care unit. The bed count should not include reserved beds for clients who may enter the hospital or residential care unit at a later time. Or if the client has left the program suddenly, this should be counted as a discharge. The bed count should be taken at the same time each day--such as 12 midnight. Enter this count in the Client ID field of the Staff Activity Log.
- 045 Supervised Care Direct Staff Hours: Report the total direct staff hours that staff spend in providing services in the supervised care modality. The total staff hours should include all of the time that a doctor, nurse, or counselor spends in doing activities relating to the services of the patient care or related activities.
- 040 Residential Clients: Report the number of beds being occupied by a patient each day in the hospital or residential care unit. The bed count should not include reserved beds for a client who may enter the hospital or residential care unit at a later time. Or if the client has left the program suddenly, this should be counted as a discharge. The bed count should be taken at the same time each day--such as 12 midnight. Enter this count in the Client ID field of the Staff Activity Log.

METHADONE MODALITY

- 055 Methadone Direct Staff Hours: Report the total hours that a nurse or doctor spends in dispensing methadone or activities in providing services to the clients in the methadone modality.
- 744 Monitoring Urinalysis: Report the time that a counselor or other nonmedical person spends in monitoring urine specimen activity.
- 050 Methadone Doses: Report the total number of methadone doses regardless of the size of the dosage dispensed each day. Enter this count in the Client ID field of the Staff Activity Log.

CRISIS INTERVENTION MODALITY

- 113 Crisis Contact (Face-to-Face): If the contact with the client is in response to his/her request for substance related services, i.e., information or advice that is urgent in nature, this type of contact should be documented in the program's client case files.
- 213 Crisis Contact and (Telephone): If the contact with the client is by telephone and is in response to his/her request for substance related services, i.e., information or advice

that is urgent in nature, these types of contacts should be documented in the program's client case files.

- 056 Crisis Intervention Manning Hours: Report the total direct staff manning hours that staff spent in manning the crisis contact point, i.e., the telephone or walk-in desk.
- 890 Educational Copresentation Activity: Report only the total staff hours that a copresenter spends in giving the presentation or lecture. Do not include the number of contacts, travel time, or preparation time spent. Count only the time spent in giving the presentation.
- 860 Professional Organization: Activities involved in giving a lecture to a professional organization on a substance related matter. Count the number of contacts and the time spent in giving the presentation. Do not include the preparation time or travel time.
- 861 Educational Organization: Activities involved in giving a lecture to a school or other educational organization on a substance related matter. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 863 Social Services: Activities involved in giving a lecture to a social services agency--public welfare--on a substance related matter. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 865 Hospital: Activities related to giving a lecture to a general hospital staff--public or private--on a substance related matter. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 866 Citizens' Group: Activities related to giving a lecture to a citizens' group in how to combat or deal with specific substance related problems. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 867 Model Cities: Activities related to giving a lecture to any model city agencies on a substance related matter. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 868 Union: Activities involved in giving a lecture to the labor union members on substance related matters. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 869 Group Meeting of Three or More Agencies: Activities related to meeting with other agencies to discuss how to combat any

problems related to substance abuse. Count the number of contacts and time spent in giving the lectures. Do not include the preparation time or travel time.

- 870 DMH Agency: Activities related in giving a lecture to any of the Detroit Mental Health agencies on substance related matters. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 872 Other Organizations: Activities related to giving a lecture to any other organization besides the ones already listed on substance abuse matters. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 873 Legislative Groups: Activities related in giving a lecture to any legislative organization on substance abuse problems. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 874 Public Health Agency: Activities related to giving a lecture to any public health agencies on substance abuse matters. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.
- 884 Clergy: Activities related to giving a lecture to church group members or clergy on substance abuse matters. Count the number of contacts and the time spent in giving the lecture. Do not include the preparation time or travel time.

INTAKE/REFERRAL MODALITY

- 057 Intake/Referral Manning Hours: Report the total direct staff manning hours that staff spend in doing intake and referral activities at a specific location, i.e., telephone or desk.

SCHEDULE CARE MODALITY

- 111 Diagnostic and Evaluation Interview: If the contact is for the purpose of diagnosing or evaluating the client. This initial contact has to be with a professional staff member of the agency and its purpose should be to develop a treatment plan with the client.
- 112 Psychological Testing: If the contact is for the purpose of conducting a written or verbal psychological test with the client.

- 114 Individual Therapy: If the contact is with an individual client (i.e., one-to-one basis) and is therapeutic in nature.
- 115 Intake Evaluation (Prospective Client): If the contact is for the purpose of diagnosing and/or evaluating the client when the client is prospective and does not have an assigned ID number.
- 116 Interview After Closing: Follow up on client after he/she has been terminated from the agency. The contact has to be therapeutic in nature and must be documented in the client's case records.
- 117 Psychology Intake Orientation: If the contact with the client deals with the psychological aspect of the client's treatment. This must be documented in the client's case records.
- 119 Vocational Counseling: Individual contact with the client in helping the client with his/her vocational needs.
- 120 Educational Tutoring--Individual: If the contact is to help the client with his/her educational process.
- 121 Client Family Therapy: If the contact is with one or more of the client's family and is therapeutic in nature. The client may or may not be present. It must be documented in the client's case records. Number in group should be completed indicating client and family members.
- 122 Group Therapy: If the contact is therapeutic in nature and involves (a) two or more clients, or (b) two or more clients and others, either family members and/or collaterals. Group therapy is generally characterized by: (1) limited size of the group, (2) predetermined goals or objectives. A roll call must be taken and documented in the client's case records.
- 129 Cotherapist Activity: Report only the staff time spent in the group session with another therapist as the head therapist. Do not include the number of clients or the ID number of the clients in your staff activity logs.
- 130 Work Therapy: If the therapy constitutes work-related tasks.
- 131 Activity Therapy: If the therapy is related to physical tasks.
- 132 Play Therapy: If the therapy is recreational in nature.
- 133 Craft-Art Therapy: If therapy is performing activities related to craft-art activities.
- 134 Vocational Counseling Group: If the contact is to counsel the clients on their vocational needs or problems.

- 135 Vocational Testing Group: If the contact is to give a written or verbal test for clients to see in what areas of vocational placement they belong.
- 136 Vocational Instruction Group: If contact is to give a class in vocational activities.
- 138 Educational Instruction Group: If the contact is to conduct classroom instruction to help clients with their vocational needs.
- 211 Diagnostic and Evaluation (Telephone): If the contact is for the purpose of diagnosing or evaluating the client by telephone. This must be documented in the client's case records.
- 214 Individual Therapy (Telephone): If the contact is with an individual client and is therapeutic in nature. If the client has an urgent problem and cannot come into the clinic. This must be documented in the client's case records.
- 215 Intake Evaluation (Telephone): If the telephone contact is for the purpose of diagnosing and/or evaluating the client when the client is prospective and does not have an assigned ID number; if the client has an urgent problem and cannot come into the clinic. This must be documented in the program's case files.
- 216 Interview After Closing (Telephone): Follow up on client by telephone after he/she has been terminated from the agency. The contact has to be therapeutic in nature and must be documented in the client's case records.
- 221 Client Family Therapy (Telephone): If the contact is with one or more of the client's family and is therapeutic in nature. The client may or may not be present. The contact must be documented in the client's case records.

Appendix B

Sample Staff Activity Log

STAFF ACTIVITY LOG

1. Agency code <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> (2-4) Name: _____	2. Period covered (Mo., Yr.) <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> (5-8)
3. Staff S.S. No. <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> Name: _____ (9-17)	4. Discipline code <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> <input style="width:20px; height:15px; border: 1px solid black;" type="text"/> (18-19)

5. Day of Mo. (20-21)	6. Client ID No. (22-27)	7. Service/ Activity (28-30)	8. No. in Group (31-32)	9. Time Units (33-34)	10.	11.	12. Agency Served (37-39)	13. Comments
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