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Role of information technology in probation management.

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ROLE OF INFORMATION TECHNOLOGY
IN PROBATION MANAGEMENT

A Dissertation Presented

by

Francis Donald Cochran

A thesis submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

May 1988

School of Education

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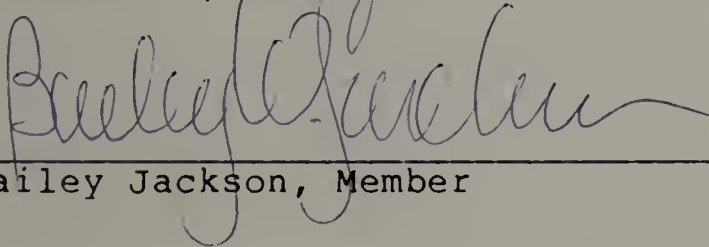
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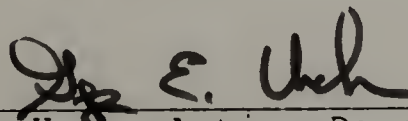
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ABSTRACT

The Role of Information Technology
in Probation Management

May 1988

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During the twentieth century probation has moved from an alternative correctional sanction for minor offenders, to the point today where 65 percent of the 2,904,979 adult offenders under correctional supervision in 1985 were on probation. The past decade has been a period where even though prisons are overcrowded, they currently function as a last gasp alternative to the courts primary correctional sanction-probation.

Concurrent with the time period that probation has moved from the fringes to the center of correctional systems, there has been a revolution in information technology and management in American society.

Although there is cursory mention of the importance of information technology and management in the probation literature, conspicuously absent is any comprehensive study of what happens to probation organizations following the introduction of automation.

This study evaluates the organizational change and development issues in the Massachusetts Probation System following the introduction of information technology and management. The study analyzes the administrative, organizational, and political ramifications of introducing the use of computerized information in the management of probation, and also proposes specifications for changes for future uses of computer information systems in probation.

The study further describes the events happening in the agency at the time that information systems were introduced into the organization. The study contains a wealth of information about what happens when information systems are introduced into a public sector organization.

The findings show that Massachusetts Probation implemented a successful organizational development effort with information technology and management at the core of the organizational changes.

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Chapter I

INTRODUCTION

A. Background

Crime is America's albatross. It increases poverty in urban and rural areas without concern for the citizens of the community. It instills fear in all of our citizens. It is the ultimate tax on enterprise, it forces businesses ranging from urban area supermarkets to rural area general stores to close. It chokes our freedom to move about safely in our homes and on our streets. The cost and consequences of crime concern everyone, and have changed our entire way of life in many communities in the nation.

Few issues in crime control are as pressing and as frustrating as the issue of how to identify, control and correct people who violate the law. The problem gets most pressing when we get to the level of dealing with convicted criminals. In fact, one of the greatest harms to our society may be our inability to exercise adequate control over people who have already been convicted of serious crimes (Stewart, 1986).

The dilemma of too many serious crimes with injured victims, not enough space to incarcerate convicted career criminals, and the resulting overburdening of probation systems present one of the major domestic policy issues facing our nation's leaders.

The problems of crime and corrections have been with us

since the beginning of our country's history. Historically, the solutions to these problems were left in the hands of the experts working in the field of criminal justice. Unfortunately these experts operated without clear statements of principles, purposes and policies. Lacking a clear mission, probation and institutional corrections generally avoided doing any type of evaluation of organizational effectiveness.

This lack of evaluation helped set the groundwork for a significant shift during the past twenty years toward politicizing the issues of crime and corrections. The end result has been a series of inconsistent criminal justice policy initiatives over the past two decades.

In 1964 Senator Goldwater campaigned for the presidency on a law and order platform and coined the term "crime in the streets". President Johnson responded by creating the President's Crime Commission, to develop policies to banish crime. President Johnson later established the Law Enforcement Assistance Administration (L.E.A.A.).

During the 1970's President Nixon established a "War on Crime" and poured up to \$900 million dollars, per year, into block grants to states. The L.E.A.A. and "War on Crime" funding led many states to reduce funding to their Criminal Justice Agencies and become overly dependent on federal funding to operate their agencies. President Carter ended the decade by cutting federal crime control programs, in an effort to reduce domestic spending.

The 1980's found President Reagan, not needing to justify his law and order credentials, eventually eliminating the remaining L.E.A.A. programs. In 1981, Attorney General William French Smith established "A Task Force on Violent Crime". Unlike the Commissions of the 1960's and 70's, the Attorney General's Task Force opted not to consider the causes of crime, saying government cannot solve all problems (Breed 1986).

Even though two decades of federal policy regarding crime and corrections have been built on limited and sometimes flawed information (Fox, 1978; Belair and Woodward, 1985), states have generally been unable to change the process because they too lack reliable information systems.

Presently, the nation is in a period of time when the federal government is talking tough about crime and at the same time cutting back on fiscal support for the states. On the other hand, most states find themselves with overcrowded prisons and reduced fiscal capacity to deal with problems in the area of correction and probation policy.

At year end, the 1984 prison population in the United States stood at 464,567 inmates (U.S. Department of Justice, 1986a). At the same time, a record 1,711,190 adults were on probation in the United States, an increase of 128,000, or 8.1% in one year. Approximately 3.8 adults were on probation for each sentenced adult in a State Prison. Probation

populations increased during 1984 in 45 of the 50 states (U.S. Department of Justice, 1986b).

There has been so much confusion created by inconsistent policy initiatives, the politicizing of crime and corrections, weak data quality and information systems, and overburdened probation and prison systems, that most states are trapped into advancing policies centered on political concerns rather than a process of policy making, evaluation, and policy modification in dealing with the problems of crime and corrections.

B. Statement of Problem

Although nearly eighty percent of all adults under correctional authority in the United States are placed under probation supervision, there is little understanding or consistency in policy and evaluation of the use of probation as the nation's primary correctional sanction.

There are few agencies with data bases and the more sophisticated components of management information systems. Computerized management information systems could lead to a clearer picture of probation as a field, and its potential and limitations as a correctional sanction.

It is important to find out if probation systems can hold the offender and organization accountable, as well as provide safety for the general public.

Since most states currently face a crime and prison overcrowding crisis, there is a need for these states to

determine how to use probation in dealing with the crisis of crime and corrections.

Although referred to as "Corrections brightest hope" (National Advisory Commission, 1973), probation has been a neglected field during the past decade. The Comptroller General's Report to Congress in 1976 pointed out that during the 1970's L.E.A.A. spent \$3.5 billion, yet only 8% of this amount was spent on probation. Recently, the National Academy of Sciences published two volumes on how to deal with career criminals and didn't even consider probation in their solutions (Blumstein et al. 1986).

Policy was put in effect during the 1970's to de-institutionalize juvenile and adult corrections systems. Most national and state policy makers ignored the fact that violent crime was rising (Fox, 1978). Most states also failed to establish realistic policies of how to supervise offenders in the community.

The groundwork was set for our 1980's problems of heavy probation caseloads, lack of changes in probation practices that would deal with more serious offenders on probation, and the reality of high recidivism rates for probationers. A 1985 study, published by the Rand Corporation (Petersillia et al.) points out, people are being put on probation who are quite different from the less serious offenders probation was originally conceived and structured to handle.

Probation has moved from its inception, in 1841,

in Boston Municipal Court "to reform the drunkard" (Augustus, 1852), to a point during the past 140 years where probation is a significant part of the corrections system, but not necessarily an integrated part of the correctional system. For the most part, probation has not articulated a clear mission statement. There is a wide range of conceptual positions regarding the goals and practice of probation.

The major conceptual positions in contemporary probation are; Just Deserts, General Deterrence, Incapacitation, Rehabilitation, (Harris, 1986), and Limited Risk-Control (Clear and O'Leary, 1983). The conceptual confusion in probation has led to very few studies regarding the efficiency or effectiveness of probation as a correctional sanction.

Probation like other social welfare movements in our society has generally been established and operated on what Patton (1986) calls the Charity or Pork-Barrel models. The Charity Model operates on the belief that, since we are doing good work, we will only know if we have been effective when we get to Heaven. The Pork-Barrel Model operates on the belief that as long as you are creating jobs for political constituents the system is a success. Both of these models are still widely used and obviously create a general anti-evaluation and research position.

Some probation systems started to plan for and deal with the realities facing them in the late 1970's. This was a

period of increased political conservatism nationally, widespread tax cap legislation at the state level and the new phenomenon of law suits against probation agents and agencies. This was a period that required a change of thinking in the management of probation systems, and some agencies did inaugurate new practices (Harlow and Nelson, 1982).

Many states started systems of differential supervision of offenders, usually in the form of an actuarial system called Risk/Need Supervision (Glaser, 1983). This form of supervision enables probation resources to be used on the most serious offenders. In addition, some states established standards for probation practices (California, 1980).

Risk/Need Supervision and probation practice standards became an essential tool for dealing with resource allocation through workload formulas (Bemis, 1983). Risk/Need Supervision systems have become an essential tool for the establishment of probation management information systems (MIS).

The Risk/Need System becomes the core of a Management Information System model for probation because it provides both (1) feedback about supervision activities in terms of probationer characteristics, problems, and needs, and (2) information for monitoring and evaluating policies, procedures, and programs (Baird et al., 1979). But, even in many of those states that established Risk/Need Systems and standards for probation practice, a computerized MIS was not instituted.

Thus, most probation managers continue to operate without adequate information. They have little ability to predict the future, they are hampered by technical uncertainty, and they operate in a turbulent political, fiscal, and social environment (Clear & Gallagher, 1985).

Faced with accelerated political, fiscal, and social demands placed on public administrators in the latter part of the 20th century, MIS has become an essential tool to establish monitoring and evaluation procedures to match policy and practice (Bozeman and Bretschneider, 1986).

Given the complexity of the task facing a probation manager, success or failure is dependent, to a large extent, on the managers ability to collect, store, analyze, and retrieve information that will enhance positive organizational change (Archambeault and Archambeault, 1984).

Since the inception of probation in Boston in 1841, Massachusetts has been in the forefront of probation practice. The Bay State's influence on modern probation has been so great that in 1939 the United States Attorney General's Survey of Release Procedures stated, "Probation in the United States has no early history apart from the development of the Massachusetts system" (Clear and Cole, 1986).

Presently, Massachusetts has one of the few systems that has established a Risk/Need System, standards for probation practice, and a batch computerized MIS.

Massachusetts finds itself today in an additionally unique and unenviable position of having the second most overcrowded prison system in the United States and the lowest incarceration rate of any industrial state in the nation (Camp and Camp, 1986). The result of the extreme prison overcrowding problem and low incarceration rate is that the Massachusetts Probation System probably deals with a more dangerous and disadvantaged offender population than any other probation system in the United States (Byrne, 1986).

In the past decade, Massachusetts probation has moved from a system that could best be described in the terms of political scientist Michael Lipsky (1980) as a pure form of "street level bureaucracy".

The organizational atmosphere of the Massachusetts Probation System during the 1970's can best be captured by identifying three characteristics of the system: (1) conceptually probation was driven by rehabilitation, (2) structurally it was a decentralized county system, and (3) in practice and procedure it was probation by personality, usually reflecting the personality of the local Chief Probation Officer.

Today the three focal concerns of Massachusetts probation are: (1) risk control, (2) centralization and (3) probation by standards.

The pivotal year for the Massachusetts Probation System was 1978 with the legislative passage of the Court

Reorganization Act. The legislature required the Commissioner of Probation to "execute control and supervision of the probation service....supervise the probation work in all courts of the Commonwealth, ...and establish the standards and rules of probation work" (MGL Chapter 276 Section 99).

When Massachusetts Probation was a county system it contained the elements of both the charity and pork-barrel philosophies described by Patton (1986). As a result, the system avoided putting any emphasis on research, evaluation, accountability, or risk control. All of this has shifted during the 1980's, and as a result, the Massachusetts Probation System is in a position once again to be the leader in moving toward the establishment of a model probation system for the Twenty First Century. The major emphasis in restructuring the Massachusetts Probation System will be on using the management of information as the key to innovation and change.

C. Purpose of Study

The general aim of this study has been to gather information that will give practical direction to managers of present and future probation departments in the evaluation and management of their organization. The basic strategy is to identify concepts, policies, and procedures in the area of information management that produce operationally useful results. The study proposes future directions for further improvements in those areas that are operating effectively and proposes improvements in those areas that are not presently

effective.

The primary objectives of the study have been to: (1) evaluate the current uses of information in the management of the Massachusetts Probation System; (2) analyze the administrative, organizational, and political ramifications of introducing the use of computerized information systems in the Management of the Massachusetts Probation System; and (3) develop proposed specifications for a new comprehensive management information system to be used in Massachusetts Probation. This evaluation and analysis of informational needs focuses on six potential areas of support for current and future management information systems:

Operational information: The information in this area is on data relating to the magnitude and character of demand for service put on the probation system.

Logistical support: The focus in this area is on data relating to the support of staff activities (i.e., job design, workload distribution, reduction of paperwork, etc.).

Management control information: This area will deal with information to improve the correspondence between practice and policy.

Problem analysis: The emphasis in this area is on identifying and exploring policies and procedures needing review.

Strategic planning: This area deals with expected changes in the organizational environment.

General research: The emphasis in this area is on producing empirically based knowledge about crime and the criminal justice system in general and probation in particular.

Evaluation of the Massachusetts Probation System's current management information capability proceeds in two phases. The first phase consists of quantitative analysis of existing probation office information systems. The second phase evaluates the existing probation office information systems in terms of the availability, quality, and accessibility of information. This phase of the project draws on the knowledge gained in the quantitative analyses of existing databases, and also examines those areas where information is currently not collected in a uniform, specific, or accessible format.

The next stage in the project examines the administrative, organizational, and political ramifications of introducing a comprehensive management information system into a department of probation. The final phase of the project will develop specifications for a comprehensive management information system for the Massachusetts Probation System that will support the department in each of the six areas outlined above.

D. Significance of Study

This study has potential significance for a wide audience. Because a fundamental need of the probation administrator is to know in detail the extent and results of his/her agency's efforts and how to strive realistically to improve these results, this study has the potential of guiding

probation and other community corrections administrators throughout the nation in the development and use of information systems in a modern probation agency.

Because this study evaluates in a systematic way information about activities, characteristics, and outcomes of programs in use in the Massachusetts Probation System, the study will be of interest to the Executive, Legislative, and Judicial leadership of the Commonwealth.

With the focus of this study being on the reduction of uncertainties, improved effectiveness, and improved decision making capacities in a large probation system through the use of information in the management of probation, this study will be of value to students, teachers, and researchers who have an interest in probation, corrections, organizational change, leadership, and public management information systems.

The potential benefits of this particular study to a wider audience can be found in the profile and supervision outcomes of probation offenders. The probationer's involvement with crime, drugs, school, peer groups, employment, and family should be of interest to elementary and secondary school administrators, teachers, and guidance counselors. The fields of social work, substance abuse counseling, employment counseling, and family therapy should be able to use insights gained from this study to improve the outcome of their work with troubled youngsters.

Ultimately since crime and corrections are major

national problems, the finding of this study will add to the knowledge base for all policy makers who are attempting to understand and do something about these problems.

The study will also set important new groundwork for future advancements in the use of information as a catalyst for innovation and change in the field of probation.

E. Limitations of Study

The limitations of the study are:

The study population is limited to the State of Massachusetts.

In the evaluation of the Risk/Need Supervision cases, styles of probation officer supervision (i.e., team, specialist, generalists, etc.) were not analyzed.

The low incarceration rate and resulting large number of high risk offenders on probation in Massachusetts may give an overly negative picture of probation as a reasonable corrections sanction.

The continual lack of clarity regarding the role of the Chief Probation Officers and their relation to the authority of the Commissioner of Probation and the dual accountability to the local presiding justice may distort the level of local Chief Probation Officer willingness to comply with the requirements of probation standards and the office automation research project.

F. Definition of Terms

The following terms used in contemporary probation are clarified:

Just Deserts - This concept is also referred to as retribution, a "justice model", of simply punishment: The basis for the sanction is the offense. The model emphasizes equality and proportionately of punishment: simply put, similar offenses should be punished similarly. The individual offender's risk or needs are not considered in this model.

General Deterrence - This concept is sometimes referred to as general prevention. It is a utilitarian, future-oriented model. Specifically, general deterrence seeks to reduce crime by so punishing convicted offenders as to reduce the likelihood that other people will choose to commit crimes because of fear of punishment.

Incapacitation - This concept of punishment also is called preventative restraint, isolation, and risk control. Like general deterrence, it is a utilitarian, future-oriented perspective with a crime reduction aim. However, incapacitation focuses on the individual offender rather than on potential offenders and seeks to affect opportunities rather than inclinations.

Rehabilitation - Also called treatment, this utilitarian concept is aimed at reducing the

inclination of individual offenders to commit crimes in the future. This model is most commonly associated with efforts to meet the needs of offenders for education, vocational training, counseling, or other services.

Limited Risk-Control - This concept attempts to integrate the two dimensions of fair punishment and offender risk. Like the Just Deserts model the state sets a determined level of punishment based on the relative seriousness of the offense. This model also attempts to deal with the issue of risk and predicting of future criminal behavior by the offender and recommends intervention when offender needs are related to criminal behavior and there is a risk of future law-violating behavior.

G. Organization of the Study

This study is divided into six chapters. Chapter I will provide an introduction to the study and contains background information, a statement of the problem addressed by the study, a definition of the purpose of the study, and a description of the significance of the study. It also includes the limitations of the study, definition of terms used in the study and the organization of the study.

Chapter II contains key studies and literature-related topics that will focus on the evolution of probation, the role of organizational development, leadership and

management strategies regarding organizational change and innovation, and finally relevant literature and key studies relating to the use of information in the management of organizations.

Chapter III describes the methodology and procedures used to gather and to analyze the data contained in the study.

Chapter IV consist of a historical analysis and quantitative findings.

Evaluation of the current information management and analysis capacity will be found in Chapter V.

Chapter VI will conclude the study and consist of the conclusions and recommendations developed from the data.

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Chapter II

LITERATURE REVIEW

It seems that whenever the topics of crime and corrections arise people tend to focus on the latest bizarre massacre reported on the evening news, or to imagine criminal offenders being punished in a fortress prison. Yet, the overwhelming number of reported criminal acts do not make the daily headlines and the majority of convicted criminal offenders in the United States serve their time in the community under probation officer supervision, not in a prison. The latest available data show that approximately 3.8 adults were on probation for each sentenced adult in a State Prison (U.S. Department of Justice, 1986). The most recent data for Massachusetts in the "Report of the Governor's Special Commission on Correction Alternatives" shows the ratio is 10.8 adults on probation for each adult in prison (1986).

There is no question that the public is very aware of the problems created by crime; it is America's albatross. But despite the public's awareness of crime, it remains ignorant of the role of corrections in the criminal justice system. Although probation programs serve more people and touch more lives in any given year than do prisons. The popular conception of corrections centers on imprisonment. There is great concern about probation, but the public generally lacks sufficient understanding or appreciation of the problems and

contributions of probation in the overall corrections system and criminal justice process (Menninger, 1966; Petersillia, et al., 1985).

Despite the relatively recent public concern with the problems of probation and prisons, current issues and problems raised by contemporary use of probation represent the extension of a long-standing tradition of community involvement in the control and punishment of criminal offenders. But as Allen Breed (1986) points out, Americans historically have had mixed and varied reactions towards crime and corrections. At one point in time they can be very punitive in dealing with deviance, at other times very compassionate toward the underdog, the underprivileged, even the offender.

With America's historically mixed reaction to crime and corrections, policymakers have been embroiled in constant debate as to whether the offender should be treated benignly or punitively. Perhaps as a result, criminal justice reforms have alternated between the pessimistic view that we cannot correct or rehabilitate the offender (Walker, 1980) and a constant search for the panacea that will cure all problems (Fincknauer, 1982).

In order to understand probation's traditional role and contemporary position, it is essential to review the historical development of probation.

Some authorities trace the roots of probation to such thirteenth century devices as benefit of clergy, which

protected certain ecclesiastics from severe punishment; sanctuary, which offered immunity from arrest and prosecution to those in a church or designated place (Grinnell, 1941). By the nineteenth century this practice was expanded to the widely accepted practice of Judicial Reprieve. Upon application of a convicted offender, the judge could elect to suspend either the imposition or execution of a sentence for a specified length of time, on condition of good behavior (Sutherland and Cressey, 1974). Judges have long understood the need for alternatives to prison when leniency is called for (Clear and Cole, 1986).

The evolution of probation in the United States can be conveniently divided into three stages: (1) the pre-twentieth century, (2) twentieth century probation, and (3) the emerging era of information technology in probation.

A. Pre-Twentieth Century Development of Probation in the United States

Probation in the United States began with the innovations of John Augustus in Boston in 1841. In 1852 this pioneer of modern probation wrote and published at the request of his friends a "Report of the Labors of John Augustus". In this work he wrote: "I was in court one morning....in which the man was charged with being a common drunkard. He told me that if he could be saved from the House of Correction, he never again would taste intoxicating liquors: I bailed him, by permission of the Court" (pp. 4-5).

The Massachusetts Legislature enacted the first probation law in the United States in 1878 (M.G.L. Ch. 198; Acts of 1878). The first probation officer was a member of the Boston Police force and his duty was to recommend probation for those persons "as may reasonably be expected to be reformed without punishment" (Carter, 1962:34). Following a two-year trial period, the Massachusetts legislature, in 1880, approved the nation's first statewide hiring of probation officers. This legislation removed probation officers from the employment of the police department and placed probation under the Judiciary (Henningesen, 1981).

Following the example of Massachusetts, Missouri became the second state to enact a probation law in 1897. In 1898 Vermont enacted probation laws that were county-based. Rhode Island, on the other hand, adopted a state-administered system in 1899. Illinois and Minnesota also passed probation statutes in 1899, although they were limited to juveniles (Smith and Berlin, 1979). As a result, by 1900 numerous states had started probation systems with a wide diversity of administrative structures. Thus, at this early stage the ground work was already established for managerial confusion in the field of probation.

The national use of probation was accelerated by the developments in the juvenile court movement, beginning in 1899 with the states of Illinois, Minnesota and Colorado enacting new laws for use in juvenile cases (Montgomery and Dillingham, 1983). By 1925 every state had some type of probation system

for juveniles, although it was not until 1967 that all states had laws authorizing probation for adults (Abadinsky, 1982).

B. Twentieth Century Development of Probation in the United States

Probation has gone through three distinct periods up to this point in the twentieth century: (1) rehabilitation, (2) reintegration, and (3) risk control.

1. Rehabilitation

Much of the philosophical foundation for probation comes out of the period of time at the turn of the twentieth century referred to by historians as the Progressive Era (Hofstadter, 1955). The Progressive Era found probation trying to affirm and expand its basic premise of humanitarianism. But, as the use of probation expanded during the early part of the twentieth century the field underwent a curious split. The heritage left by Augustus and his followers was a humanitarian orientation that focused on reformation, an idea consistent with the social policy philosophies of the Progressive Era. But, the new probation officers hired under the enabling legislation were drawn largely from the law enforcement community - retired sheriffs and policemen - whose orientation they shared (Clear and Cole, 1986). Thus, right from the beginning of this century, probation officers started to work in an atmosphere of role confusion, philosophical disagreement, and inconsistency between policy and practice.

The period between 1900 and 1930 in the United States found increased use of technology and machinery in the work

force. There was a wave of immigrants pouring into urban areas seeking housing and employment. These immigrants, with their different languages and customs, tended to settle next to each other, forming little ethnic pockets in the poorer sections of town. Immigrant neighborhoods soon became characterized by high crime rates (Shaw and McKay, 1932:11). The Progressive reformers believed that the solution to this problem of different ethnic groups and their life styles was to turn the nation into a "melting pot" (Dean-Myrda and Cullen, 1985). The Progressives believed that if the immigrants became Americanized they would no longer have any need to engage in criminal activity, and crime would be largely eradicated (Rothman, 1980:48-49).

The Progressives designed a correctional system that had three key components. The first focus was treatment rather than punishment. This view was largely an outgrowth of the Positivist School of Criminology, established by Cesare Lombroso in the late 1800s. The second hallmark of Progressive criminal justice reform was an insistence on individualized treatment (Barnes, 1972). The third factor, which distinguished Progressive intervention in the lives of law violators, was an implicit trust in the benign power of the State to do good on behalf of all of its citizens (Rothman, 1980). The government would no longer be punishing criminals. Instead, it would be responsible for reforming them into upwardly mobile citizens. From today's perspective,

especially in light of Watergate, Vietnam, Attica, and political patronage, the Progressives view of the State as a benign entity seems naive; but nevertheless, the philosophical roots laid down by these early pioneers still heavily influence modern probation practices.

The evolution of probation into the 1930's found Sheldon Glueck editing a volume of essays on probation. He wrote that "In the barren soil of penology, probation gives us the promise of developing into the flower among the weeds" (1933). A further study containing a wealth of empirical and legal data was released in 1939, entitled "The Attorney General's Survey of Release Procedures". This study devoted a whole volume to probation. Prominent scholars contributed to the work of this national commission and made the portrait of probation a well delineated study of what went into the field. Though the work embodies certain contradictions, sharpened in recent years, between a libertarian concern for defendants rights and a social casework concern for mandated therapy, the issues remain relevant today. In fact, considerable time elapsed before another significant contribution to data or theory was made (McAnany et al., 1984).

In the 1940's leaders in probation and other aspects of corrections began to embrace the ideas about personality and human development current in the field of psychology. Influenced by the work of Sigmund Freud and other early psychoanalysts, probation began to emphasize rehabilitation as

its overriding goal. This new focus moved probation work into the realm of the professions, at least rhetorically. During this period there was a group which believed that a social worker/counselor model for probation officer supervision of the offender should contain a treatment component so that the offender could be helped to become a worthwhile citizen (Trester, 1981). However, David Rothman (1980) questions whether the ideas of psychiatry, social work, or counseling, which fall under the umbrella of the "medical model" of probation, were ever fully implemented by even a small number of probation departments. Nevertheless, the logic of this approach certainly dominated the professional literature (Duffee and Fitch, 1976). In general the studies of probation between 1900 and the 1940's constantly emphasized the gap between policy promise and actual practice. Proponents of probation remained loyal to the principles of probation, citing poor administration for any and all of its perceived or real failures. Probation supporters continued to argue that the ideas of probation were valid and all that was needed to make probation work was to improve faulty administrative practices (Rothman, 1980).

The 1950's tended to be a decade of little change in the field of probation. The dormancy of the decade seems to have provided a respite before the onslaught of the next significant change in probation.

2. Reintegration

The 1960's proved to be a turbulent decade. America

saw an increase in crime rates. There were larger numbers of youngsters in the crime prone age group, and there were large numbers of drug and other counter-culture movements. America's institutions were generally not prepared for the sudden rush of change that the decade brought. It became almost mandatory for political candidates to talk about crime while on the campaign trail. By 1967 the general problems of crime and unrest among the nations youth were widespread enough that President Johnson commissioned a number of Presidential Task Forces, including one on corrections. In dealing with probation, the Task Force on Corrections brought into question the following: the heavy reliance upon the medical model of rehabilitation for offenders; one-on-one counseling practices; the failure of probation departments to become actively involved in community resource development; the absence in probation departments of any adequate case management and classification systems.

In January 1973, the National Advisory Commission on Criminal Justice Standards and Goals issued its "Report on Corrections". It stated,

"although probation is viewed as the brightest hope for corrections, it's full potential cannot be reached unless consideration is given to two major factors. The first is the development of a system for determining which offenders should receive a sentence of probation. The second is

the development of a system that enables offenders to receive the support and services they need so that ultimately they can live independently in a socially acceptable way"

(p. 311).

Probation managers and their practices came under tight scrutiny during the 1970's. The National Advisory Commission (1973) pointed out that corrections was a field virtually devoid of professionally trained managers. Seniority and cronyism had proven grossly inadequate as selection and advancement criteria. By the mid-1970's, there had been a decade of substantial change in our society, and as Mark L. McConkie (1976) pointed out, nothing, perhaps would be as central to the probation administrator's life as change. Change would come in personnel, policy, law, court orders, organizational structure, technology, and political demands within and without the probation system.

The greatest demand placed on probation arose from the increasing use of probation as the primary judicial sanction used in the United States. The 1976 Comptroller General Report entitled "State and County Probation Systems in Crisis", pointed out that probation was used in 70 percent of the sentences handed down by the Courts. Probation was seen as an important and essential element in the correctional mix by a number of widely respected authors of the time (Clegg 1974; Morris 1974; Fogel 1975; Mangrum 1975).

The changes and challenges for probation that grew out of the 1960's led to a decline in the orientation toward the medical model of criminality. A new set of ideas came to the forefront, among them a reintegrative model, based on the notion that crime is a product of dysfunctional community processes, such as, poverty, racism, unemployment, and unequal opportunities. These concepts dominated the scene in community corrections and probation (Lattessa, 1983). Probation was seen as a central correctional method because it was the primary existing means of dealing with the offender in the problem context the offenders community. Corrections, like other fields, got so tied up in the concept of reintegration that juvenile and adult correctional facilities were closed down and bond issues to build more prisons were generally turned down by the voters. This reintegrative model had the impact of changing probations emphasis from direct counseling service by probation officers to service brokerage. Carlson and Parks (1979) point out that the "brokerage" approach to probation supervision is diametrically opposed to a "treatment" approach since the probation officer is not concerned primarily with understanding or changing the behavior of the probationer; the idea of "brokerage" was not to build relationships with the offender, but rather to assess the offender's needs and put them in touch with the appropriate resources. Like the progressive reformers of sixty years earlier, the reintergratationists were long on

rhetoric and promise and short on evaluation of the policy and practice of reintegration (Patton, 1986).

3. Risk Control

The latter 1970's found thinking about probation changing again. Tax cap initiatives, such as California's Proposition 13, led to a reduction of resources to probation (Harlow and Nelson, 1982). At the same time continued increase in crime and lack of prison space led policy makers to look again at the potential utility of probation. The goals of rehabilitation and reintegration gave way to an orientation widely referred to as risk control (Clear and O'Leary, 1983). The demise of the reintegration model came about due to rapid changes in our society, especially in the political movement toward conservatism on the federal level (Breed, 1986). With the failure of the "Great Society" to materialize, attention turned away from the emphasis on meeting the offender's needs toward a more dominant emphasis upon protecting the citizens from the ravages of crime. Thus, this recent emphasis on risk control is an outgrowth of widespread public demands that the criminal justice system be streamlined and that it direct its attention to reduction of crime (Clear and Cole, 1986).

The tool that is most widely used today by probation departments, as they attempt to improve the management of the organization in general and the individual offender in particular, is a differential supervision model referred to as

Risk/Need Supervision.

Because different offenders have different problems and require different services, most experienced probation officers "utilize an intuitive system of classifying offenders into differential treatment and surveillance modes..." (Baird, Heinz and Bemus, 1979:3). The criteria used to assign the appropriate supervision level "are probably as varied as agents' experiences, education and philosophical approaches to the job" (Baird et al. 1979:3). This unstructured, highly individualized approach lacks predictability in that there are no standards to determine what type of offender will receive what level of supervision.

Risk/Need supervision systems have proven to be the most widely used solution to idiosyncratic supervision. These Risk/Need Systems allow probation departments to implement a case classification/management information system model for probation supervision. These classification systems are based on concepts first developed in the 1920's for use in parole (Warner, 1923; Hart, 1923; Burgess, et al., 1928).

Classification and risk control supervision for probationers initially received their widest application in the State of Wisconsin in the mid 1970's, Massachusetts established its first organized efforts in this area in a pilot project in 1979. Many other probation systems instituted classification systems in order to more effectively use limited resources.

Risk control and the proper use of organizational resources clearly require some sort of classification of the offender according to the relative risk of their reverting to crime, and hence the closeness with which they should be monitored (Glaser, 1983). The problem of classifying offenders accurately has been a long standing one and the categories to be used in this risk screening of offenders developed slowly in the period between the 1920's and 1970's.

From a policy perspective it is critical that probation departments be able to examine the characteristics of offenders who have already entered the criminal justice system, that is, individuals who have already been arraigned in court for at least one criminal or delinquent offense. Probation departments are therefore interested in those factors that may contribute to an offender's persistence in criminal activities which contribute to offender recidivism. This latter set of considerations is important to probation systems because a major objective of such organizations is to reduce recidivism among offenders under their authority (Blumstein and Graddy, 1981-82).

Probation departments are concerned with obtaining descriptive information on the criminal offenders under their authority. Probation is also concerned with identifying those individual, social, and organizational factors which affect an offender's return to criminal activity. Also, like most organizations today, probation departments are concerned with

the allocation of resources within the organization. Thus, they are concerned with developing methods for the efficient and fair distribution of resources. Unfortunately, however, this type of data was not readily available to probation administrators prior to the establishment of Risk/Need Supervision Systems; in fact, it is generally still not available to administrators of probation organizations who have not instituted Risk/Need Systems.

The characteristics of parole offenders were studied in the early 1920's. Ernest Burgess attempted in 1928 to employ actuarial methods used by insurance companies to predict offender risk. Burgess started with a system that had 22 factors relating to parolees' probability of recidivating. Burgess' original prediction methods were rather unsophisticated by present standards, but some of the variables he identified (including prior record and age at release) were constantly affirmed by later studies to be among the more accurate indicators of parolee recidivism (Glaser, 1964; Babst and Chambers, 1972; Baird, 1973). Indeed, it could be said that most later work has been largely a refinement and elaboration of Burgess basic method (Bohnstedt, 1959; Gottfredson, 1962). Parole researchers continued attempts at more sophisticated statistical methods for identifying, weighing, and combining prediction factors, and the California Base Expectancies Scale was developed and widely used in the 1950's (Wilkins, 1972). This was also a period of time in

which substantial efforts were being made to refine predictions for various levels of risk (Sarbin, Wenk, and Sherwood, 1968).

By the mid-1960's, despite many years of research to improve prediction instruments, two major problems with parole prediction became apparent. First, although experience tables did predict better than chance, even the best instruments tended to produce unacceptable levels of false positives (Simon, 1971). Efforts to improve the accuracy of predictions generally were unsuccessful, leading many researchers to conclude that there may be a natural limit or ceiling on accuracy in criminological prediction (Gottfredson, et al., 1973; Monahan, 1978). The injustices generated by low predictive accuracy (denying parole to several persons who will not recidivate in order to prevent the crime of one who will) led critics such as Norval Morris (1974) to argue that the use of parole prediction instruments should be abandoned on legal and ethical grounds.

A second problem with parole prediction instruments that became evident by the 1960's was that parole boards were simply refusing to use them. A survey of all 51 parole jurisdictions in the United States in 1961 revealed that only two jurisdictions were still using parole prediction instruments (Evjen, 1962).

With the invaluable aid of hindsight, it may be seen that all of the criticisms about parole prediction instruments

stem from a more general underlying problem i.e., the lack of shared understanding between researchers and criminal justice practitioners. Virtually none of the studies conducted prior to 1960 investigated the process of parole policy in the areas of decision-making; most concentrated exclusively on parolee characteristics and their relationship to recidivism. The research ignored many of the practical considerations that enter into parole decisions; researchers simply assumed that the risk of recidivism was (or should be) the main criterion and then constructed their prediction tables accordingly.

From the perspective of parole board members, risk of recidivism clearly is an important factor, but it is only one factor in decision-making and not necessarily the most important. While this point may be obvious to anyone familiar with parole board hearings, it did not fully penetrate the field of criminological research until after 1960. Later work has shown that such factors as offense severity and institutional behavior are at least equally important to board members in parole decision-making (Gottfredson, et al., 1975 Heinz, et al., 1976;). Institutional behavior (disciplinary infractions, participation in prison programs) also influences parole decisions, as board members generally believe it must to maintain institutional order.

Not only did parole prediction instruments ignore factors considered important by parole board members, the instrument's reliance on the likelihood of recidivism also

tended to produce decisions diametrically opposed to what those board members felt to be appropriate. Because offense severity is often inversely related to recidivism, use of experience instruments would require parole boards to set early release dates for persons they and the public believed least deserve them (Neithercutt, 1972).

The parole prediction approach of the 1950's and early 1960's proved to be too simplistic and limited for those required to use them. Nevertheless, the parole experience with risk prediction proved to be helpful to probation in the 1970's when it became necessary for probation agencies to develop Risk/Need Systems.

In the March 1964 edition of Federal Probation, Lovell Bixby wrote an insightful article entitled "Are We Applying What We Know". In the article he points out that, too many of our clients continue in their lawless ways both during and after the period of supervision. We find many excuses. We blame poor selection by the courts, excessively high caseloads, lack of job opportunities for probationers, a cold shoulder from the social agencies, lack of psychiatric facilities and so on without end. But, he asks, if all these were bettered would we do much better? This is the same question raised by the 1967 and 1973 National Commissions. It was also the question that was asked most frequently by legislative funding groups and others by the mid-1970's.

Robert Carter and Leslie Wilkens addressed the issue in

1976. They point out that in corrections, we try to cope with problems by taking additional measures, but tend to focus on providing the same traditional services to handle increased numbers of offenders processed through the System. The authors suggest that we cannot continue to employ additional personnel indefinitely, build new institutions, or recreate established programs. The trend in corrections has been quite consistent, to create more of what already exists and to depend upon past experience without much attempted innovation.

In the main, our current and planned correction procedures are determined neither by imaginative and creative thinking supported by the utilization of available technology nor by other new knowledge in the social and behavioral sciences (p. 391).

By the mid 1970's with such views in mind, and with the public's growing frustration with crime and criminals, heavy tax burdens, and an emerging political conservatism, probation in many jurisdictions was forced to examine issues relating to empirical evidence surrounding client/caseload characteristics. There was an urgent need to evaluate probation and to pursue promising avenues based on present knowledge (Gottfredson, Finckenauer, and Rauh, 1977).

Since the criticisms of probation tended to focus on the oversized probation caseloads, this was generally seen as the major obstacle to a successful probation operation (American Bar Association, 1970).

It is obvious that caseload size has to be a critical consideration. If the caseload size is too large the line probation officer becomes frustrated and ends up spinning his wheels in the process of supervising the offender. The large number of cases also leads to an overflow of paperwork. This ultimately impacts the attitude and behavior of the probation officer toward the work of probation. The excess paperwork eventually brings the probation officer to the point where he quits, or resigns himself to a superficial noninvolvement which keeps paper moving but does nothing to resolve the offender's problems (Mangrum, 1975:161).

The criticism of probation from outside the field, the decline of fiscal support and the general public's dissatisfaction led a number of probation administrators to look around for ways to improve their practices. The problem for most probation systems (including Massachusetts) was that since they had not done any serious internal research regarding their effectiveness, they were really unprepared to respond to their critics. Most probation systems, including Massachusetts, could not answer such basic questions as to the number of offenders they were supervising. All they knew was they had a lot of people under supervision.

Since excessive caseloads seemed to be a major criticism of probation, this was the area into which most administrators put their initial energies. Establishing a case classification system was the most obvious solution.

Rather than reinventing the wheel, probation administrators looked toward prior research done in the area of parole prediction.

Because being placed on probation was considered a less severe form of punishment than incarceration, and since probation classification was generally used only to determine the number of probation officer contacts with the offender, the Risk/Need Systems did not have to meet the same rigid statistical criteria as required of sentencing guidelines and parole prediction instruments (National Institute of Corrections, 1979:Vol. 5). By the late 1970's a number of probation departments had instituted a Risk/Need Classification System.

A 1979 publication from the American Justice Institute titled "Classification Instruments for Criminal Justice", identified 105 cites where unique classification systems were being used by probation. This "sourcebook" stated that most of the instruments lacked high standards of sophistication. Moreover, it was noted that only 26% of the surveyed agencies had developed programs through independent research and that many were adopted from instruments used elsewhere (Vol. 2).

Given the past history of probation policy and practice, it is not surprising that implementation of Risk/Need Systems in probation would go in a number of different directions. Probation systems had a number of different reasons for starting a client classification system in their jurisdictions.

David Twain (1983) offers a concise rationale for placing any reform effort in its proper historical/cultural context: "There are traditions in a community. The rationale for community practices must be understood and the power of traditions respected if necessary and successful change is to be accomplished" (33).

The following is a sample list of probation systems that operate in a variety of historical and cultural settings, including the reasons they instituted a Risk/Need System in their jurisdictions by the end of the 1970's.

Classification instruments in California tended to be based on the Base Expectancies Scales. California probation is a county system that receives some subsidy from the State government, but it is primarily funded by the individual counties. Because of the public's perception of a heavy tax burden there was considerable reluctance for counties to subsidize any expansion of probation services. The counties generally tried to pass the burden onto the State. Therefore, in addition to classification, one of the innovative programs in California was a program in which the State paid money to the counties for persons being placed on probation instead of going to jail. This was one of the methods the State used to protect itself against a prison overcrowding problem. A number of other states copied this program, but like California, eventually abandoned the probation subsidy approach (Hussey and Duffee, 1980).

In Illinois' Kane County, Probation took a unique approach to classification by putting its emphasis on factors associated with a specific employment program in the county, in the belief that if they could keep the offender employed they would decrease the number of recidivists.

Connecticut started a statewide Risk/Need System due to the fact that they had large numbers of people on probation, limited staff, and a lack of commitment from the legislature to expand the probation staff. Connecticut was unique in its approach because, in addition to a sophisticated research model, probation also wanted to use the Risk/Need System as part of their pre-sentence procedure. They were never able to fully implement the pre-sentence application. Because the Connecticut research was so thoughtfully carried out, they proved beyond a doubt that a large proportion of the caseload could be removed from active supervision without much risk to the community. This had a substantial impact a few years later when Massachusetts instituted its Risk/Need System and Supervision Standards (Sullivan, et al. 1980).

In Pennsylvania, the city of Philadelphia had an experience with Risk Assessment that unfortunately was all too common throughout the nation. All of the systems that were studied in relation to Risk/Need Assessment indicated that they received strong resistance from line staff. The idea of resistance would not seem to be surprising in a field where probation officers were never held accountable for their time

or case outcome. Philadelphia and a number of other jurisdictions abandoned the experiment rather than to deal with the management/employee relationship issues raised by accountability (Philadelphia Probation, 1979).

The University of Missouri (1978) conducted reliability and validity testing on the Missouri Probation Risk Scale. The contribution of this study, later duplicated by Connecticut, Wisconsin, Massachusetts, and California, showed that aggressive/assaultive offenses and behavior were not a significant predictor of case outcome. But despite this finding, all five states place assaultive cases into a maximum supervision level at the initial stage of classification. This is the classic example of a good research answer not being implemented because of the public relations problems it would create (Hughes, 1978).

The State of Wisconsin developed the most elaborate and most often copied Risk/Need Classification System (1983). McCarthy and McCarthy (1984) point out that one of the most challenging problems facing probation is to get a proper balance between offender need and offender risk in the probation officer supervision of the offender. As mentioned earlier in this chapter, many legislative bodies were getting very impatient with probation agencies because of lack of proven effectiveness. The State of Wisconsin in 1974 took a very radical approach to this problem. It gave the probation department five years to prove its effectiveness or the agency

would be abolished. Needless to say, this proved to be a great catalyst for some very creative thinking.

Out of the challenge emerged the four basic components of the Wisconsin Risk/Need System (Baird, 1979). The four basic components are as follows:

Risk and needs assessment.

This evaluation involved the use of a risk scale that discriminates between high, moderate, and low-risk individuals and a needs assessment instrument that focuses on academic/vocational needs, employment, financial management, marital/family problems, companions, emotional stability, alcohol usage, other drug usage, mental ability, health and sexual behavior. Risk and needs assessments are used to assist staff in determining the level of supervision an offender requires.

Case management classification.

This component involves the use of an interview guide to assist the staff in determining the type of supervision an offender requires. Four supervision strategies commonly utilized are selective intervention, casework/control, environmental structuring, and limit setting.

Management information system.

This system provides for the routine collection and systematic organization of information obtained on

offenders at admission, reevaluation and termination. This data provides a "before, during, and after" record for each client and can be used to identify trends, project populations, examine usage of community resources, plan future purchase of service priorities, and answer special requests for information.

Workload development and budget procedure.

The procedure provides information on each supervising staff member's workload. This information facilitates the deployment of staff and the budgeting of new positions (Baird, 1981).

In 1978 with the passage of the Court reorganization legislation, Massachusetts probation moved from a fragmented county system to a statewide probation system. This 1978 legislation mandated amongst other things that the Commissioner of Probation develop standardized ways of supervising probation offenders. The Law Enforcement Assistance Administration, with its focus on crime, provided funds for the developmental stages of instituting standards for probation operations in the Commonwealth. The first attempts at a Classification System emphasized offender needs. This 1979 project was pilot tested in nine courts across the state. In 1980 the first risk scale was introduced on a pilot basis.

Recognizing the need to validate probation classification systems, in 1980 the National Institute of

Corrections funded a research project to thoroughly analyze data generated from the nine Massachusetts probation offices which had participated in the pilot test. The results of that study were published in 1981 (Cochran, Brown, and Kazerian).

Drawing on the findings of the NIC research, the Massachusetts Risk/Need System format underwent minor revisions and was promulgated for statewide application on April 1, 1982. This statewide system was again researched for validity and reliability in 1984 (Cochran and Brown).

While the Risk/Need System was being developed, monitored and evaluated, Massachusetts probation made use of its early and subsequent research findings to institute a number of standards for field operations and most importantly to use the Risk/Need findings as the basis of a computerized management information system. By the end of 1982, the Massachusetts Probation Service had gone from the fragmented decentralized probation system of 1978 to a more centralized system driven by standards, information, and research.

In 1987 Massachusetts is at the point where the risk/need system, other standards, and the management information system have to be evaluated in order to use the information to lay the groundwork for further change and innovation in the probation system.

C. The Emerging Era of Information Technology:
Implications for Probation Policy and Practice

This study has the potential to lay the groundwork for

Massachusetts Probation to be at the cutting edge of innovation. The transformation of data into information and knowledge will break ground for probation officers to practice probation work in ways that were never before possible. This transformation will also allow probation administrators to create an organization that will be intelligent, accountable, and capable. It will also allow probation managers to become committed to a process of monitoring, evaluation and change when needed.

Currently, probation managers typically become associated with a given policy and they tend to become committed to this policy because their reputations are connected with the policy. In this situation organizations are far more likely to become static because administrators will typically resist change.

Due to lack of access to reliable information, probation managers typically have been limited to supporting existing administrative and philosophical policies, without knowing if the policy and practice of their organization are effective. With the introduction of a variety of emerging information technologies probation has the potential of allowing managers to serve their clientele more effectively. The term information technology refers to those software and hardware developments that are transforming our ability to manage, analyze, and disseminate information. In the area of software these developments include decision support systems,

expert systems, graphics, as well as the more familiar management information systems. The area of hardware developments include low cost powerful micro-computers, improved graphic hardware, greater mass storage capacity, and greatly enhanced output and printing capabilities. The creative and effective application of information technologies to probation management and policy making will become the new measure of organizational excellence in probation.

1. Trends in Information Technology in Society

The information age has arrived in the United States, according to social analyst John Naisbitt (1982). While courts and the criminal justice system have generally resisted innovation or change, increased reliance on computers is inevitable (Archambeault and Archambeault, 1984). Management information systems will become increasingly critical to probation departments.

There has already been an increase in the use of computers as an aid to managing the probation supervision process (National Institute of Corrections, 1981). New mechanisms such as workload accounting (Bemus, 1982), instrumented classification systems (Solomon and Baird, 1981), and program-based budgeting (Nelson, et al., 1978) are attractive tools for probation managers. These methods bring with them a degree of science, and this makes them attractive to many probation managers whose efforts in the past have often been limited to experience-based guesswork about the

systems they managed and the clients they serve (Clear, 1985).

Although it is true that many probation administrators are behind other administrators in implementing the concept of information management, their late arrival can have some advantages. Just as there were obvious advantages to starting a Risk/Need System after other jurisdictions had done some of the basic work, it may be possible that the same advantage can be found in adapting the policy and practice of others in instituting a probation management information system. Nevertheless, it will still be both frustrating and challenging in developing, monitoring, and fine tuning effective management information and decision support systems for probation.

The challenge for the probation administrator is to focus on the actual experiences others have had with computing technology and to determine what is possible and reasonable for their own organizations. Computing in and of itself is not a powerful and influential force in an organization. But it does provide the opportunity to analyze prevailing policy and provides the probation administrator with a window towards the larger organizational process issues (Kraemer and King, 1986).

As George M. Scott (1986) points out, centralized management imposes heavy demands on a system's need for information. In a large system there are voluminous amounts of information that decision-makers have to receive and

analyze, in order to make effective decisions. This information must be received frequently, as often as weekly, and it must be in a standardized form. Given this type of demand on a system and the organizational history of a field like probation, it is not surprising that establishing an effective management information system in Massachusetts Probation has been a considerable challenge.

Ideally, an effective information system will produce information which will contribute to the collective wisdom of the organization. Management information systems also produce control over the activities of others, through surveillance, monitoring, persuasion, targeting, and incentives (Lawler and Rhode, 1976; Weiss and Gruber, 1984).

The accelerated pace of technological change, especially over the last decade, point the way toward computer literacy becoming as fundamental in the future of American society as the ability to read is in today's society. With the advances in information assimilation and delivery, and the concomitant pressures being put on organizations, there is a major rethinking and reshaping of today's organizational management structures (Athos and Pascale, 1981; Ouchi, 1982). Traditional concepts of bureaucratic management will be discarded and replaced by newer ones. This change will increasingly find its way into criminal justice organizations (Archambeault, 1982; Archambeault and Weirman, 1983; Archambeault and Fenwick, 1983).

2. Problems in Introducing Information Technology Into The Probation Environment

Probation managers have developed a long history of using the bureaucratic management practice of collecting large amounts of data, and have generally failed to take the next step and turn that data collection process into information management. To take this step is not a technological but a management problem. As Davis and Olson (1985) point out, information is data that has been processed into a form that is meaningful to the recipient and is of real value in current or prospective decisions. Information is obviously more than raw data, it has to be put into a system that results in a set of organized procedures that, when executed, provides support to the decision making process and control in the organization. Information is an entity that serves to reduce uncertainty about some plan or event (Lucas, 1986). Given the past history of probation where there was little public scrutiny or concern about probation agencies, there was obviously little need for concern about organizational effectiveness by probation managers.

When an organization does ultimately introduce a management information system, it is imperative that committees, made up of end users of the system, be part of the planning process (Hemple, 1983). Once the system is developed, it is essential that the agency personnel be able to use the data to meet the agency's needs (Weimer, 1980). In 1980 when

Massachusetts Probation started its initial efforts in management information, there were a number of committees formed to work on the design of the system and the end product design was a result of the work of the committees.

The major problems encountered in the start up efforts were problems that are common to any public bureaucracy. The three major problems encountered were (1) staff resistance, (2) poor data quality, and (3) intra-organizational conflict.

Staff resistance to the introduction of computerized information systems is universal and should be counted upon in the planning process (Hemple, 1983). The primary reason for this resistance is that management information systems disturb the informal organization of an office by threatening mutual understanding about prestige, communication networks, and power (Quinn, 1976a). Also, by introducing an MIS, some structural reorganization is almost inevitable, promising managerial headaches (Sullivan, 1981). For instance, introducing MIS requires clarification of agency goals and policies in order to make them measurable (Zalkind, et al., 1979). Probation, like other human service agencies, is not accustomed to formalizing goals. As Quinn (1976b, p.167) writes, "Traditionally human service agencies have been able to preserve their autonomy by resisting rigorous measurement and evaluation - technique was largely inadequate".

Further, although the effectiveness of services provided by human service agencies is most difficult to

measure (Thayer, et al., 1974), with the introduction of risk/need and a computer system it is possible to measure whether or not the service is provided. The information allows for an evaluation of the probation officer's work. This factor can obviously be threatening to a probation officer (Kagle, 1979). It is, therefore, not surprising that when an MIS was introduced to Massachusetts Probation it was not received by all with open arms.

Initially in Massachusetts, the resistance to the introduction of a management information system followed anticipated lines. As Weimer (1980) points out, the most common form of resistance to a computerized information system is unconcern by many of the workers about accurate coding, leading to unreliable data. But as Quinn (1976b) and Sullivan (1981) point out, it is important that management not be punitive when these coding errors are found, as this will only ensure more resistance. Zalkind, (1979), Harrell (1981), and Sullivan (1981) all agree an effective use of a users advisory group will usually overcome this problem in a reasonable period of time; our experience in Massachusetts demonstrated that this solution works.

Another problem that was encountered when the MIS was introduced to Massachusetts Probation in 1981 was intra-organizational conflict. This problem, although less pronounced is still present in 1987. It is common for computer programs to fail because they do not meet the needs

of the users (Weimer, 1980; Harrell, 1981). And although extensive commitment and effort went into assuring that large numbers of probation personnel were placed on advisory committees, there was still substantial conflict. Given the transitional organizational change from probation by personality and local autonomy to central control, intra-organizational conflict was not surprising, but as Zalkind, et al. (1979) Weimer (1980) and Harrell (1981) point out, this type of conflict has the greatest potential of any problem to destroy a budding management information system.

3. Organizational and Management Implications of Information Technology for Probation

Like other agencies, the Massachusetts Probation System found that as the computer system overcame its initial problems and built in wider applications for the system, a new and more far reaching set of issues emerged. These issues are (1) system flexibility, (2) accountability, (3) political culture, and (4) program responsibility. These issues are more substantial because they reach to the core values of the individual worker and the organization (Weiss et al., 1986).

It is important to realize that information which is better by technical standards is not necessarily more valuable information (Lindbloom and Cohen, 1979; Weiss, 1980; Markus, 1983). Information has value to people as a function of the demands of their jobs. People facing different job demands respond to information with different levels of appreciation.

People working in the central probation administrative office and those working in local probation offices have different political cultures, community, and constituency pressures. These differences shape preferences as to what information is valued. Local probation offices find the most value in computer information that increases the office's ability to make routine decisions. The central administrative office also needs to monitor routine information, but the most valuable information for top management comes from exception reporting systems that signal in a timely manner a need that requires top management action (King, 1983). The increased capacity of micro-computers makes it possible for today's organizations to maintain this balance between central and local offices (Bingham, 1984). This balance avoids culture shock in the organization because it allows for the implementation of policies by the on-site manager. For probation this means that the best element of "street level bureaucracy" flexibility (Lipsky, 1980) can be maintained by the new "desk-top bureaucrat" (Hurley and Wallace, 1986). This flexibility is very important in a modern probation system because users' understanding of their information needs tends to evolve as they work with the system (Rubin, 1986). As long as managers develop an understanding of how to coordinate the use of this new microcomputer technology, this flexibility in decision making can be effective and still have accountability at all levels of the organization (Eve and

Braverman, 1984).

One of the most crucial functions in using information in a democratic government is to hold the agencies accountable for performance (Derthick, 1975). For probation, like other agencies, it is important that local offices provide the central administrative office with information that documents their activities. The central office has to specify in some detail the information requirements in order to be sure that its criteria have been satisfied.

The balance between information requirements, flexibility and accountability is crucial and difficult to attain. One of the major initial attractions for the top management in the Massachusetts Probation System toward the implementation of an MIS was in the area of exercising and augmenting control. But as the system developed it became obvious that, an overemphasis on control actually weakens accountability as happens in many other organizations. The reason for this phenomenon is that rigid control leads to decreased involvement by the users of the system (Kraemer, et al., 1981).

In order to avoid this problem of overcontrol, managers have to learn the lesson that it is more important to do the right thing, rather than always doing things right (Bennis and Nanus, 1985). If the information system remains too rigid it will cease to meet the needs of the users and they will return to the use of their old paper systems (Booker, 1986). This

return to the old way of doing things will generally not be driven by malice, but rather by survival needs on the part of the worker (Naisbitt and Aburdene, 1985; Cole, 1981). In order to be effective in a modern day organization, a manager still has to have a high level of human relations skills to go along with computer skills (Lax and Sebenius, 1986).

The area of accountability in building effective information systems points out clearly that the key to building a workable information system is to have a manager who understands and values innovation (Foster, 1981; Drucker, 1985) and is an effective leader (Drucker, 1982; Peters and Waterman, 1982; Peters and Austin, 1985). It is well recognized that effective management requires the ability to find and develop strategies that are flexible in planning and controlling the change process in an organization (Hersey and Blanchard, 1977). If the manager lacks the needed skill to handle the management of an information system, then the information system and ultimately the organization is in trouble. As Carkhuff and Berenson (1977) argue, "a person without skills is not trustworthy, for he or she must live by guile", (p273) and the consequence of this is that an organization that lacks a skilled information manager will also lack the leadership needed to deal with the political culture problems brought on by computer information systems.

As noted throughout this review, Probation, like every agency, operates with prevailing beliefs and practices that

derive from its history, experiences, sense of mission, power alignments, leadership, geographical location, and communities (Schein, 1985). Differences in political culture can have important consequences for a managers orientation to the use of information. In a field like probation it is not surprising to see that some managers make constant use of available information and other managers regard attention to information as a waste of time (Lynn, 1981). In the public sector, officials at the highest level are likely to be political appointees who are not usually involved in operations management. These political managers tend to be concerned with political cycles and quick fix results and can undermine the long-term managerial objectives of a management information system (Ein-Dor and Segev, 1978). The effective operations manager will only be able to continue long term planning if he or she learns to use today's information to create a good public relations image for today's political appointee. This requires a high level of competence on the part of an operations manager if he or she is to be effective and maintain personal integrity (Chase and Reveal, 1983).

It is fortunate for the Massachusetts Probation System that it is in the Judicial Branch of the government, and, therefore, top managers are not quite as subject to political cycles as managers in the Executive Branch of government.

Top level management is in a position to follow either the strategy of infrequent intervention with the local

probation offices or to be a constant presence (Berks and Kirst, 1972). The central administration of the Massachusetts Probation Service chose involvement with the local offices and therefore raised the level of expectation about and importance of the information systems (Lindbloom, 1965; Weiss and Gruber, 1984). Ultimately, in any public organization, the manager of the information system must understand that the potency of computing in decision making makes it politically very important: As a result, the successful information managers will be the ones who understand the political culture of their organization (Kraemer and King, 1986).

The next important focus for the information systems innovator is in the area of program responsibility. Usually, people who work in the same job have similar responsibilities, even when their surrounding probation office environments differ. This leads people who work at the same job to socialize with one another about what is useful and important (Heclo, 1978). It is important for an administrator to keep these informal network of ties and mutual commitment in mind if he/she expects to be able to comprehend whether or not the line worker or lower level manager will take on responsibility for ensuring the effectiveness of the information system (Kirst and Jung, 1982). This professional network will be central to what types of information the worker considers valuable (Wright, 1982). The successful policy maker will learn to understand and take into account the workers' value

judgments about information. Policy makers with agencywide responsibilities will be able to accurately monitor such areas as operational standards and risk/need compliance if they are able to accurately gauge the commitment of probation personnel to the various programs (Bozeman and Bretschneider, 1986).

In summary, extensive reference will be made to a 1982 publication, by this writer, that contains many issues that still generally hold true in 1987. The point must be made that like the services of most public agencies, probation departments will experience new internal and external influences on both their modes of operation and the future delivery of their services, necessitating new approaches to management.

Unlike the traditional surveillance and rehabilitation orientations still followed today, officers in the future will need a better understanding of the mission and functions of their organizations and be able to monitor and evaluate ongoing operations. This new managerial position or role may require restructuring the administration of programs whenever necessary to accomplish primary goals. It will also involve the redefinition of organizational tasks and goals. These changes will occur in an evolving environment, one which is subject to such phenomena as a generally declining economy, constrained resources, new political orientation, and new technologies. As a result of these trends, long term forecasting and planning capabilities will be essential.

Once management learns to appreciate and understand the forces of change upon the probation system, it will become management's duty to create an organizational climate supportive of innovation and experimentation. This climate or environment must simultaneously attempt to support principles of fairness and equity as a part of the organization's service delivery mission, and as a part of its performance accountability structure. These reforms should serve to clarify the purpose, goals and roles of the organization.

Probation management will demand bold leadership and the ability to "prioritize" organizational plans. Management will have to learn to deal effectively with the problems of human motivation, applying the concepts and principles developed by modern behavioral sciences. Not only will managers need to meet these immediate internal organizational challenges, but they will also need to pursue them while experiencing considerable external pressures (e.g., fiscal, demographic, and correctional philosophy changes). As a result, managers will need the emotional and intellectual skills necessary for the rational and effective delivery of services in an extremely volatile environment.

The following summarizes the broad array of talents and strengths required of future probation administrators:

If probation is to survive and flourish, the administrators within the system are going to have to have strong technical, human

relations and conceptual skills. Managers of probation systems during the 1980's are going to have to be persons of strong convictions, openmindedness, courage, and a strong sense of fair play.

All of these qualities will be needed for probation managers to establish the administrative structure that can establish a reward system, workplace climate and personnel policies that will lead to a system committed to the establishment of a "justice model" in probation, a system that believes in and supports the principles of individual rights, human dignity, and the resulting fair and equitable treatment of all parties concerned, administrators, employees, and clients.

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Chapter III

METHODOLOGICAL APPROACH

The primary objectives of this study are to: (1) evaluate the current uses of information in the management of the Massachusetts Probation System; (2) analyze the administrative, organizational, and political ramifications of introducing the use of computerized information in the Management of the Massachusetts Probation System; and (3) propose specifications for new comprehensive management information system. This evaluation and analysis of informational needs focuses on six potential areas of support for current and future management information systems:

Operational information: The information in this area is on data relating to the magnitude and character of demand for service put on the probation system.

Logistical support: The focus in this area is on data relating to the support of staff activities (i.e., job design, workload distribution, reduction of paperwork, etc.).

Management control information: This area will deal with information to improve the correspondence between practice and policy.

Problem analysis: The emphasis in this area is on identifying and exploring policies and procedures needing review.

Strategic planning: This area deals with expected changes in the organizational environment.

General research: The emphasis in this area is on producing empirically based knowledge, about crime and the criminal justice system in general and probation in particular.

Evaluation of the Massachusetts Probation System's current management information capability will proceed in two phases. The first phase consist of quantitative analysis of existing probation office information systems. The second phase evaluates the existing probation office information systems in terms of the availability, quality and accessibility of information. This phase of the study draws on the knowledge gained in the quantitative analyses of existing databases, and also examines those areas where information is currently not collected in a uniform, specific or accessible format.

The next stage in the study examines the administrative, organization and political ramifications of introducing a comprehensive management information system into a department of probation. The final phase of the project develops specifications for a comprehensive management information system for the Massachusetts Probation System that will support the department in each of the six areas outlined above.

A. Quantitative Analysis of Available Probation Data

As Blumstein and Graddy (1981-82) note, it is important for both theoretical and policy reasons to partition aggregate measures of crime into measures of prevalence (reflecting the breadth of participation) and incidence (reflecting the intensity of participation). For theoretical reasons it is important because the factors which initiate entry into crime

may differ somewhat from factors which lead to its persistence or recurrence. From a policy perspective the difference between prevalence and incidence is equally important. Indeed, for a department of probation it is a critical distinguishing policy factor. To put it simply, probation departments are primarily interested in examining the characteristics of offenders who have already entered the criminal justice system, that is, individuals who have already committed at least one criminal offense. Departments of probation are therefore interested in those factors that may contribute to an offender's persistence in criminal activities and not in factors that are solely associated with entry into crime. Thus, whereas a school system might be concerned primarily with those social conditions and individual characteristics which contribute to a youngster's initial entry into juvenile delinquency, a department of probation is going to be more concerned with those conditions and characteristics which contribute to offender recidivism. This latter set of considerations is important to probation departments because a major objective of such organizations is to reduce recidivism among offenders under their authority.

Of course, the data and analytic methods that are appropriate to manage, monitor and evaluate an organization are to a great extent tied to the policy objectives of the organization. In the case of departments of probation, such organizations are concerned with obtaining descriptive information on the criminal offenders under their authority.

As suggested above, however, probation departments are also concerned with identifying those individual, social, and organizational factors which affect an offender's return to criminal activity. Surprisingly, however, the type of data required by probation departments is often not available to the administrators in these organizations. Finally, like most organizations, departments of probation are also concerned with the allocation of resources within the organization. Thus, they are concerned with developing methods for the efficient and fair distribution of resources.

To examine offender characteristics probation administrators need comprehensive descriptive data on the social, demographic and criminal history characteristics of offenders. To examine those factors which affect offender recidivism it is necessary to obtain longitudinal data that include not only the social and demographic characteristics of offenders prior to going on probation, but also information on offenders' criminal record and social history, as well as documentation of the offenders' interaction with their probation agency. Finally, to evaluate the allocation of resources, probation departments need information on the level and characteristics of the workload across different units and/or workers within the organization.

Drawing on available data this study examines the characteristics of offenders assigned to a major statewide probation system, and also examines the potential factors associated with offender recidivism. In addition, the

study also examines the question of estimating court workloads and evaluating the allocation of resources across courts. To accomplish these objectives the study draws on a sample of individual level offender data from a uniquely comprehensive criminal offender manual level database available at the Massachusetts Office of the Commissioner of Probation. This database contains complete criminal history records on over 6,000,000 persons who have had contact with the criminal justice system in Massachusetts. (Experience or contact with the criminal justice system refers to a very broad range of interactions, including arraignment and arrest as well as conviction and imprisonment.) Finally, the study will also draw on computerized monthly aggregate court level data on court workloads.

Using these databases examples will be presented of how a department of probation can use such information to manage the allocation of resources and evaluate the performance of the organization. In the following sections there will be a description of the databases analyzed in the study and a presentation of an outline of the statistical techniques that were employed to study offender recidivism and organizational performance.

1. Individual Offender Level Data Analysis

The major database analysis in this study was done on a sample of all adults and juveniles who were placed under Risk/Need supervision in the Commonwealth of Massachusetts

during the month of September 1982. The data was collected from manual records in the courts and from the records available in the Criminal History File. Importantly, this sample of cases constitutes all offenders throughout the state who came under the authority of the Massachusetts Office of Probation during September 1982, and includes information on 1,963 offenders. For a distribution of the cases by Superior, District, and Juvenile Courts see Tables (3.1-3.4)

Although there were 1,963 people in the sample, that total may vary in the statistical tables presented in this study. Missing data and non-applicable data are the two major reasons why the totals will show minor variations across the different analysis presented in the following chapters.

a. Data Collected

The following variables were collected from the 1982 cases:

TABLE 3.1 Offender Socio-Demographic Characteristics

Age at instant offense	Probation officer
Sex	Offense(s)
Court	Supervision dates
Date of assessment	Level of supervision

TABLE 3.2 Offender Risk Characteristics

Prior adult or juvenile record during the past 5 years
 Number of prior periods of probation supervision during past 5 years
 Age at first offense
 Number of residence changes during past 12 months
 Time employed or in school during past 12 months
 Family structure
 Alcohol/drug usage problems
 Attitude
 Total risk score

TABLE 3.3 Offender Need Characteristics

Education	Other drug usage
Employment	Counseling
Marital/family	Financial management
Social	Motivation/ability
Alcohol	

TABLE 3.4 Criminal Record Information

Actual date of arraignment
Age at first offense (actual)
Number of prior offenses (actual)
Number of prior periods of probation
supervision(actual)
Subsequent offenses
Date of arraignment-subsequent offense
Number of jail days not served
Number of offenses, 12 months prior to being placed
on probation
Number of offenses during supervision
Consistency of data reported by probation officer
compared to data on criminal records

b. Data Sources

All the data listed above were available from one of three sources:

- Risk/Need Assessment Instruments: These forms are routinely submitted to the Office of the Commissioner of Probation in Boston for all new Risk/Need cases, at the onset of the probationary period.

- Probation Central File: All criminal/delinquency records in Massachusetts are centrally filed in the Office of the Commissioner of Probation "Probation Central File". This database is unique because it contains data (including arraignment dates, offenses, dispositions and other pertinent criminal/delinquency data) on virtually all individuals who had contact with Massachusetts' criminal justice systems any

time since 1910. This database contains data on over 6 million offenders.

- Individual Case Folders: The Supervision Standard promulgated by the Commissioner of Probation requires that certain standard information and forms be kept by all probation offices. Case folders, therefore, include such forms as police reports, investigation summaries, conditions of probation supervision, etc. Sanctioning data, such as surrender information and modification of the original conditions, would be documented in detail in these standard forms in the individual case folders.

Data for this study come from courts across the state with diverse workloads and supervision approaches.

Data Quality

The Risk/Need Classification System was an outgrowth of a number of criminal justice initiatives in Massachusetts during the 1970s; two of the principal movements were:

- The Massachusetts Court Reorganization Act of 1978, which created a unified Trial Court and mandated that the Commissioner of Probation develop standardized ways of supervising probation offenders;

- The Law Enforcement Assistance Administration, which through its focus on crime control, provided funds for the developmental stages of this project.

The Risk/Need Classification System was pilot tested from 1979 through 1981, using nine courts across the state for

field testing.

While the earliest versions of the classification instrument were largely focused on a treatment approach (by assessing an offender's needs and strengths), in 1980 the first Risk scale was introduced on a pilot basis.

Recognizing the need to validate probation classification systems, in 1980 the National Institute of Corrections funded a research project to thoroughly analyze data generated from the nine Massachusetts probation offices which had participated in the pilot tests. The results of that study were published as Risk/Need Executive Summary #4 (Cochran, Brown and Kazarian, 1981).

Drawing from the findings of the NIC research, the Massachusetts classification form underwent minor revisions and was promulgated for statewide application on April 1, 1982. An extensive statewide training effort was developed to support implementation of the new standard. For six months after Risk/Need was adopted statewide, all classification forms were sent to the Office of the Commissioner of Probation in Boston where they were reviewed for compliance with the Supervision Standards. Any classification forms found to have missing data, inaccurate codes, or information not in compliance with the Standards, were sent back to the local probation office for correction.

Inaccurate coding by probation officers could over - or underestimate the final risk scores, and thereby increase the incidence of false negatives (people predicted to be low risk,

who subsequently commit another crime) or false positives (people who do not commit another crime and are supervised at too high a level). To assure that the data used in this research study were reliable, a four-stage test of reliability was conducted:

- Each case undergoes a thorough monitoring of the classification assessments and supervision plan of the line probation officer(s); the Assistant Chief Probation Officer (ACPO) has to formally review and then sign off on each case. This procedure is a requirement of ACPO supervision guidelines. Inherent in these guidelines is the requirement that the initial assessment be reviewed by the ACPO prior to implementation of the supervision plan. After a Risk/Need Classification is reviewed it is sent on to the central office of the Commissioner of Probation.

- Once the Risk/Need forms were received at the Office of the Commissioner of Probation in Boston, they were reviewed for completeness and accuracy of coding. Any classification forms which had missing data or were miscoded were returned to the court for corrections and the form was then resubmitted.

- Another thorough review of the data was conducted at the time the data were coded. Where data from the local probation officer were found to be inconsistent with data from the Probation Central File's criminal records, or were internally inconsistent, the most correct data were entered on the coding form. The cases with consistency errors were duly noted as having failed to meet the test of internal consistency.

- Finally, compliance with the Supervision Standard promulgated statewide on April 1, 1982 was tested by analyzing the dates of assessment in relation to recidivism.

Data Collection

Variables on the Risk/Need classification forms and criminal history records in the Probation Central File were centrally gathered and coded at the Office of the Commissioner of Probation, since all those records and forms are centrally located in Boston.

Data in the Individual Case Folders were gathered via a simple questionnaire mailed to local probation offices after the termination date for individual cases. Additional data were collected by on-site monitoring of the probation case folder by staff members of the Office of the Commissioner of Probation.

Recidivism data were available in detail from the Probation Central File.

2. Aggregate Court Level Data Analysis

The Department of Probation regularly collects monthly aggregate information for each of Massachusetts' Superior, District, Juvenile and Probate courts. From each of these courts data are collected on: (1) new cases received; (2) their total current caseload; (3) the number of cases requiring supervision; (4) the number of cases terminated; (5) the amount of monies collected, as well as various other types of aggregate court level data (see Tables 3.11-3.14 for the forms used to collect these data). These data are available for use

in examining variations in court caseloads and evaluating the allocation of resources across courts.

3. Statistical Methods for Analysis

This project incorporates a range of research tasks. The appropriate statistical methods have been employed when approaching particular analytic tasks. Below is a review of the statistical methods used in this research.

Examinations of the probation offender population, as well as, examinations of aggregate court level workload statistics draw primarily on exploratory or descriptive statistical methods. More specifically, in analyzing the characteristics of the probation offender population, the study examines univariate frequency distributions and also examine crosstabulations of all important offender characteristics. The aggregate court level workload data will be examined by using univariate distributions and also cross court variations will be examined by aggregate workload measures. Both the frequency distributions and the cross tabulations were processed using SPSSX(1986). The statistical significance of the crosstabulations were tested using the Chi-Square statistics which is also generated by SPSSX. This statistic tests whether the expected frequency in the body of the tables are statistically different from the actual observed frequencies. In addition, graphics (i.e., bar charts, etc.) have been employed in selective instances to highlight important findings. Somewhat more sophisticated techniques have been employed for examining offender recidivism. A useful

approach to modeling of offender recidivism is to be found in the family of techniques known collectively as "survival" or "time to failure" analysis (Gross and Clark, 1975). These models have been used widely in the biomedical sciences to estimate the survival times of patients with fatal diseases. Survival analysis has been applied in the past to study the length of stay in mental hospitals (Hanson, 1973; Reuter and VonKorff, 1980). More recently, these techniques have been used in the field of criminal justice (see, for example, Maltz, 1984; Clements, 1985; Illinois Criminal Justice Authority, 1986). This type of analysis is possible with probation data because the Office of Probation's criminal history database contains extensive information on the offender's criminal career (including the type of offense an offender committed, whether there was an arrest, conviction or imprisonment, etc.). In addition the database contains the socio-demographic characteristics of offenders (at the time of their offense), selected information on contacts with the probation department, and information on factors relating to particular areas of need (such as drug dependency or a poor home environment).

The procedures involve analyzing distributions of time to recidivism for individual offenders. The techniques allow variable starting points, and can include data on offenders who have not been recidivated (or, in the language of survival analysis, "censored observations") at the end of the observation period. Two distributions are useful in these

kinds of analysis: (1) the cumulative survival or failure rate representing the proportion of offenders committing another crime up to varying lengths of time (this function allows the estimation of the probability of having a particular likelihood of recidivating); and (2) the hazard function, which is a distribution of probabilities of committing another crime within a particular time interval, such as, for example, the seventh month after going on probation, given that an individual has not committed a criminal offense up to the beginning of that period (e.g. month, quarter, etc.). The analysis of hazard or failure rates, as Clements (1985) notes, provides additional important information on the characteristics of recidivism beyond that provided by examining cumulative or gross rates of recidivism. Analyses using failure rates indicate the periods of time with the highest levels of recidivism. Thus, research or administrative analyses using hazard or failure rates are important because they provide information on the timing and the frequency of recidivism. The cumulative and failure rate probability distributions are particularly useful in that their graphic and tabular representations allow detailed analysis of the entire distribution of the time to recidivism, as well as the conditional probability of committing another crime. This is particularly important, because, by using these techniques it is possible to model time to recidivism among criminal offenders and examine whether there are two or more distributions of recidivists, perhaps one representing a

distribution of time to recurrence for high rate offenders, and another perhaps representing low rate or minimum risk offenders. The ability to detect and model such mixed distributions is essential for the work proposed here, since it is quite possible that some policies would be appropriate for supervision of high risk offenders, while others might be more appropriate for low risk offenders. If the study were to examine only measures of central tendency across various groups of offenders the potential differential patterns when offenders recidivate (e.g., maximum versus minimum supervision offenders) would be missed without examination of the hazard or failure rate.

B. Evaluation of the Existing Probation Management Information Capability of the Massachusetts Probation System

Taking into consideration the overall organizational mandate of the Massachusetts Probation System, this phase of the study evaluates the management information capability of the probation system in each of the six information support areas reviewed at the beginning of this chapter.

This evaluation draws on the exploratory quantitative analyses, as well as information obtained through the direct study of existing probation, manual record and other data collection systems.

Existing information and/or record systems have been evaluated in terms of data quality, missing information, level

of aggregation, current uses (if any), and estimated number of staff required to support particular systems. In addition, all sources of information have been evaluated in terms of whether they were available in computerized or manual record form. If they were available in computerized form the manner and timeliness in which data was entered (e.g., via CRT terminals or keypunch machines and online versus batch) has been evaluated. The study will examine whether computerized data is on tape or magnetic disk drives and also evaluate how much expertise is required to retrieve such data. If data was available in manual record form an evaluation has been made of how accessible such information is and how much time is required to transform this information into data which is of utility to managers.

C. Evaluation of Administrative, Organizational, and Political Ramifications of Introducing a Comprehensive Probation Management Information Decision Support System

Prior research (Weiner, 1980; Sullivan, 1981; Hemple, 1983, and Cochran, Corbett and Byrne, 1986) suggests that the introduction of almost any type of comprehensive information system will have significant and very often unanticipated consequences. This phase of the study examines the potential ramifications of introducing a comprehensive system into the Massachusetts Probation System. The specific areas reviewed include:

Staff resistance to new systems

Data quality

Interorganizational conflict (crosscutting responsibility of data once available)

Potential questions of legal liability once a system is in place.

Implications of potential for increased monitoring of staff

Implications of potential for improved support of staff

Implications of potential for enhanced strategic planning and research capability.

This evaluation draws on existing literature concerning the problems of implementing information decision support systems. In addition, this portion of the study draws on interview and questionnaire data drawn from a sample of administrators and line personnel. These interviews and questionnaires have been specifically directed at staff perceptions about the problems and possibilities of introducing a comprehensive management information decision system into the Massachusetts Probation System.

TABLE 3.5: Distribution of Risk/Need Cases by Court: Adults in District/BMC

<u>Court Name</u>	<u>Freq.</u>	<u>Court Name</u>	<u>Freq.</u>	<u>Court Name</u>	<u>Freq.</u>
Boston	44	North Adams	12	Waltham	24
Roxbury	36	Grt.Barrington	2	Cambridge	16
South Boston	13	Adams	2	Woburn	25
Charlestown	9	Taunton	15	Dedham	24
East Boston	21	Fall River	20	Stoughton	12
West Roxbury	16	New Bedford	43	Quincy	73
Dorchester	59	Attleboro	3	Wrentham	14
Brighton	35	Edgartown	1	Hingham	16
Brookline	3	Salem	38	Plymouth	15
Somerville	33	Amesbury	5	Wareham	12
Lowell	13	Haverhill	15	Leominster	11
Newton	6	Gloucester	4	Worcester	67
Lynn	33	Ipswich	4	Gardner	8
Chelsea	32	Greenfield	14	Dudley	13

CONTINUED.

TABLE 3.5 (Cont.)

<u>Court Name</u>	<u>Freq.</u>	<u>Court Name</u>	<u>Freq.</u>	<u>Court Name</u>	<u>Freq.</u>
Brockton	38	Orange	2	Uxbridge	3
Fitchburg	11	Palmer	28	Milford	9
Holyoke	39	Westfield	7	Westborough	24
Lawrence	28	Northampton	9	Clinton	6
Chicopee	2	Ware	8	Spencer	15
Marlborough	15	Concord	10	Winchendon	3
Newburyport	6	Ayer	14	Peabody	5
Springfield	74	Framingham	8	Natick	4
Barnstable	35	Malden	20	Nantucket	3
Orleans	8				
Pittsfield	20				
				TOTAL	1,315

TABLE 3.6: Distribution of Risk/Need Cases by Court: Adults in Superior Courts

<u>Court Name</u>	<u>Freq.</u>	<u>Court Name</u>	<u>Freq.</u>
Barnstable	5	Hampshire	6
Bristol	38	Middlesex	27
Berkshire	1	Norfolk	10
Essex	9	Plymouth	14
Franklin	1	Suffolk	23
Hampden	25	Worcester	29
		TOTAL	188

TABLE 3.7: Distribution of Risk/Need Cases by Court: Juveniles

<u>Court Name</u>	<u>Freq.</u>	<u>Court Name</u>	<u>Freq.</u>
Roxbury	8	Gloucester	1
South Boston	1	Greenfield	6
East Boston	3	Palmer	13
Dorchester	15	Concord	11
Brookline	2	Ayer	7
Somerville	5	Framingham	21
Lowell	12	Malden	15
Newton	3	Waltham	3
Lynn	17	Cambridge	4
Chelsea	2	Woburn	14
Brockton	16	Dedham	11
Fitchburg	12	Stoughton	2
Holyoke	1	Quincy	15
Lawrence	20	Wrentham	10
Lee	1	Hingham	13
Marlborough	2	Gardner	12

CONTINUED.

TABLE 3.7 (Cont.)

<u>Court Name</u>	<u>Freq.</u>	<u>Court Name</u>	<u>Freq.</u>
Newburyport	2	Wareham	8
Springfield	23	Leominster	9
Barnstable	2	Worcester	25
Orleans	3	Westborough	5
Pittsfield	3	Dudley	1
North Adams	4	Uxbridge	1
Grt.Barrington	1	Westfield	12
Taunton	2	Spencer	4
Fall River	4	Winchendon	3
New Bedford	25	Boston Juvenile	23
Attleboro	3	Peabody	2
Salem	6	Natick	5
Haverhill	3		
		TOTAL	457

TABLE 3.8 Risk Assessment

Name _____ (FIRST) _____ (MIDDLE) _____ (LAST)
 D.O.B. ____/____/____ S.S. ____/____/____ Sex _____ CT# _____
 Date Assessed ____/____/____ Assessed by _____ (FIRST) _____ (MIDDLE) _____ (LAST)
 Supervising Probation Officer _____
 Offense(s) #1 _____ #2 _____
 #3 _____ Probation From ____/____/____ to ____/____/____

SCORE AT:	INITIAL	FOUR MOS.	TEN MOS.	TERM												
1. PRIOR RECORD (ADULT OR JUVENILE) DURING PAST 5 YEARS 0 = 3 or more 1 = two 2 = one 4 = none																
2. NUMBER OF PRIOR PERIODS OF PROBATION SUPERVISION DURING PAST 5 YEARS 0 = 2 or more 1 = one 4 = none																
3. AGE AT FIRST OFFENSE 0 = 16 or younger 1 = 17-19 2 = 20-23 3 = 24 or older																
4. NUMBER OF RESIDENCE CHANGES DURING PAST 12 MONTHS 1 = 2 or more 2 = one 3 = none																
5. EMPLOYED/SCHOOL ABSENCE DURING PAST 12 MONTHS <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">EMPLOYED</td> <td style="width: 50%;">SCHOOL ABSENCE</td> </tr> <tr> <td>0 = 2 months or less</td> <td>0 = 26 or more days</td> </tr> <tr> <td>1 = 3-4 months</td> <td>1 = 21-25 days</td> </tr> <tr> <td>2 = 5-6 months</td> <td>2 = 16-20 days</td> </tr> <tr> <td>3 = 7-8 months</td> <td>3 = 11-15 days</td> </tr> <tr> <td>4 = 9 months</td> <td>4 = 10 days or less</td> </tr> </table>	EMPLOYED	SCHOOL ABSENCE	0 = 2 months or less	0 = 26 or more days	1 = 3-4 months	1 = 21-25 days	2 = 5-6 months	2 = 16-20 days	3 = 7-8 months	3 = 11-15 days	4 = 9 months	4 = 10 days or less				
EMPLOYED	SCHOOL ABSENCE															
0 = 2 months or less	0 = 26 or more days															
1 = 3-4 months	1 = 21-25 days															
2 = 5-6 months	2 = 16-20 days															
3 = 7-8 months	3 = 11-15 days															
4 = 9 months	4 = 10 days or less															
6. FAMILY STRUCTURE 0 = currently resides away from family, few or no family ties 1 = resides in one-parent home 2 = parent not supporting children 3 = single, emancipated from parental home, strong family ties, or married no children 4 = resides in two-parent home 5 = parent supporting children																
7. ALCOHOL OR DRUG USAGE PROBLEMS 0 = frequent abuse, needs treatment 1 = presently in treatment 2 = occasional abuse, some disruption of functioning 3 = prior problem 4 = no apparent problem																
8. ATTITUDE 1 = rationalizes negative behavior; not motivated to change 2 = dependent or unwilling to accept responsibility 3 = motivated to change; receptive to assistance 4 = motivated; well adjusted, accepts responsibility for actions																

TABLE 3.9 Needs Assessment

NEEDS/STRENGTHS	INITIAL ASSESSMENT				FOUR MONTH ASSESSMENT				TEN MONTH ASSESSMENT				TERMINATION ASSESSMENT			
	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
EDUCATIONAL	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
EMPLOYMENT	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
MARITAL/FAMILY	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
SOCIAL	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
ALCOHOL USAGE	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
OTHER DRUG USAGE	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
COUNSELING	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
HEALTH	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
FINANCIAL MGMT	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2
MOTIVATION/ABILITY	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2	-2	-1	+1	+2

NEEDS/STRENGTHS BRIEF NARRATIVE SUMMARY		SUPERVISION PLAN AND DUE DATE
INITIAL		
FOUR MONTHS		
TEN MONTHS		

TERMINATION SUMMARY:

PROBATION SUPERVISION	DATE INITIAL ASSESSMENT			DATE FOUR MONTHS			DATE TEN MONTHS			DATE TERMINATION		
	MAX	MOD	MIN	MAX	MOD	MIN	MAX	MOD	MIN	MAX	MOD	MIN
REVIEWED AND APPROVED BY AND DATE				SUPV. PLAN ADDRESSED			SUPV. PLAN ADDRESSED			SUPV. PLAN ADDRESSED		
				YES		NO	YES		NO	YES		NO

TABLE 3.10 Scoring Procedure

	-2	-1	+1	+2
EDUCATIONAL:	Minimal skill/ability level causing severe adjustment problems	Low skill/ability level causing minor adjustment problems	Adequate skills/ability no apparent problems	High school or above skill/ability level
EMPLOYMENT:	Unemployed and virtually unemployable; needs training	Unsatisfactory employment; or unemployed but has adequate job skills/abilities	Secure employment; no difficulties reported; or homemaker, student or retired	Satisfactory employment for one year or longer
MARITAL/FAMILY RELATIONSHIPS:	Major disorganization or stress	Some disorganization or stress but potential for improvement	Relatively stable relationships	Relationships and support exceptionally strong
SOCIAL:	Peer group relationships negative or non-existent	Peer group relationships occasionally negative	No negative relationships	Good peer support and influence
ALCOHOL USAGE:	Frequent abuse; serious dysfunctional behavior; needs treatment	Occasional abuse, some disruption of functioning	No difficulties reported or observed	No known use
OTHER DRUG USAGE:	Frequent abuse; serious dysfunctional behavior; needs treatment	Occasional abuse, some disruption of functioning	No difficulties reported or observed	No known use
COUNSELING:	Behavior problems that severely limit independent functioning	Behavior problems that indicate some need for assistance	Able to function independently	Well adjusted; accepts responsibility for actions
HEALTH:	Serious handicap or chronic illness; needs frequent medical care	Handicap or illness interferes with functioning on a recurring basis	No current health problems	Sound physical health, seldom ill
FINANCIAL MANAGEMENT:	Severe difficulties in handling finances	Situational or minor difficulties	No current difficulties	Long standing pattern of self sufficiency; e.g. good credit rating
MOTIVATION/ABILITY:	Offender both unable and unwilling to address problems	Offender willing but unable to address problems	Offender able but unwilling to address problems	No problem; offender is able and willing to address daily living situations

TABLE 3.11 Superior Court

**OFFICE OF THE COMMISSIONER OF PROBATION
MONTHLY REPORT OF PROBATION ACTIVITIES**

SUPERIOR COURT PROBATION OFFICE
DIVISION: _____

Month _____ Year _____
Court Number _____

This form must be received by the Research & Statistical Bureau, Office of the Commissioner of Probation, 1 Ashburton Place, Boston, MA 02108, by the 15th of each month.

<p>I. RISK/NEED CASEFLOW</p> <p>Carry Over _____</p> <p>New _____</p> <p>Terminated _____</p> <p>TOTAL _____</p>	<p>II. RISK/NEED LEVEL OF SUPERVISION</p> <p>Intensive _____</p> <p>Maximum _____</p> <p>Moderate _____</p> <p>Minimum _____</p> <p>TOTAL _____</p>																		
<p>III. ADMINISTRATIVE SUPERVISION</p> <p>Carry Over _____</p> <p>New _____</p> <p>Terminated _____</p> <p>TOTAL _____</p>	<p>IV. PROBATIONERS RECEIVING SURRENDER NOTICES RE:</p> <p>New Criminal Charges _____</p> <p>Technical Violations _____</p> <p>TOTAL _____</p>																		
<p>V. BAIL REVIEWS</p> <p>TOTAL _____</p>	<p>VI. COLLECTIONS</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: right;">Whole Dollar Amount</th> </tr> </thead> <tbody> <tr> <td>Support</td> <td style="text-align: right;">_____ .00</td> </tr> <tr> <td>Restitution</td> <td style="text-align: right;">_____ .00</td> </tr> <tr> <td>Fines/Sur fines</td> <td style="text-align: right;">_____ .00</td> </tr> <tr> <td>Court Cost</td> <td style="text-align: right;">_____ .00</td> </tr> <tr> <td>Reduced Counsel Fee</td> <td style="text-align: right;">_____ .00</td> </tr> <tr> <td>Victim/Witness Fee</td> <td style="text-align: right;">_____ .00</td> </tr> <tr> <td>Other</td> <td style="text-align: right;">_____ .00</td> </tr> <tr> <td>TOTAL COLLECTED</td> <td style="text-align: right;">_____ .00</td> </tr> </tbody> </table>		Whole Dollar Amount	Support	_____ .00	Restitution	_____ .00	Fines/Sur fines	_____ .00	Court Cost	_____ .00	Reduced Counsel Fee	_____ .00	Victim/Witness Fee	_____ .00	Other	_____ .00	TOTAL COLLECTED	_____ .00
	Whole Dollar Amount																		
Support	_____ .00																		
Restitution	_____ .00																		
Fines/Sur fines	_____ .00																		
Court Cost	_____ .00																		
Reduced Counsel Fee	_____ .00																		
Victim/Witness Fee	_____ .00																		
Other	_____ .00																		
TOTAL COLLECTED	_____ .00																		

Signature: _____
Chief Probation Officer or Probation Officer-in-Charge

TABLE 3.12 District Court

**OFFICE OF THE COMMISSIONER OF PROBATION
MONTHLY REPORT OF PROBATION ACTIVITIES**

DISTRICT/BOSTON MUNICIPAL COURT PROBATION OFFICE MONTH _____ YEAR _____
 DIVISION: _____ Court Number _____

This form must be received by the Research & Statistical Bureau, Office of the Commissioner of Probation, 1 Ashburton Place, Room 405, Boston, MA 02108, by the 15th of each month.

<p>I. RISK/NEED CASEFLOW</p> <p>Carry Over _____</p> <p>New _____</p> <p>Terminated _____</p> <p>TOTAL _____</p>	<p>II. RISK/NEED: LEVEL OF SUPERVISION</p> <p>Intensive _____</p> <p>Maximum _____</p> <p>Moderate _____</p> <p>Minimum _____</p> <p>TOTAL _____</p>
-------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------

<p>III. DUIL/SUPPORT CASES</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center; border-bottom: 1px solid black;"><u>DUIL</u></td> <td style="text-align: center; border-bottom: 1px solid black;"><u>SUPPORT</u></td> </tr> <tr> <td>Carry Over</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>New</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Terminated</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> </table>		<u>DUIL</u>	<u>SUPPORT</u>	Carry Over	_____	_____	New	_____	_____	Terminated	_____	_____	TOTAL	_____	_____	<p>IV. PROBATIONERS RECEIVING SURRENDER NOTICES RE:</p> <p>New Criminal Charges _____</p> <p>Technical Violations _____</p> <p>TOTAL _____</p>
	<u>DUIL</u>	<u>SUPPORT</u>														
Carry Over	_____	_____														
New	_____	_____														
Terminated	_____	_____														
TOTAL	_____	_____														

V. COLLECTIONS	
	Whole Dollar Amount
Support	_____ .00
Abuse Prevention Act	_____ .00
URESА-FROM other states	_____ .00
URESА-TO other states	_____ .00
Restitution	_____ .00
Fines/Surfines/CMVI	_____ .00
Court Costs	_____ .00
DUIL 24D Court Fee	_____ .00
Vol. Agrmt. (Support)	_____ .00
Reduced Counsel Fee	_____ .00
Victim/Witness Fee	_____ .00
Other	_____ .00
TOTAL COLLECTED	_____ .00
Title IV-D Collections	_____ .00
Support Paid to DPW	_____ .00

Signature: _____
 Chief Probation Officer or Probation Officer-in-Charge

TABLE 3.13 Juvenile Court

**OFFICE OF THE COMMISSIONER OF PROBATION
MONTHLY REPORT OF PROBATION ACTIVITIES**

JUVENILE PROBATION OFFICE
DIVISION: _____

MONTH _____ YEAR _____
Court Number _____

This form must be received by the Research & Statistical Bureau, Office of the Commissioner of Probation, 1 Ashburton Place, Room 405, Boston, MA 02108, by the 15th of each month.

<p>I. RISK/NEED CASEFLOW</p> <p>Carry Over _____</p> <p>New _____</p> <p>Terminated _____</p> <p>TOTAL _____</p>	<p>II. RISK/NEED: LEVEL OF SUPERVISION</p> <p>Intensive _____</p> <p>Maximum _____</p> <p>Moderate _____</p> <p>Minimum _____</p> <p>TOTAL _____</p>
<p>III. PROBATIONERS RECEIVING SURRENDER NOTICES RE:</p> <p>New Delinquency Charges _____</p> <p>Technical Violations _____</p> <p>TOTAL _____</p>	<p>IV. CHINS CASEFLOW</p> <p>Carry Over _____</p> <p>New _____</p> <p>Terminated _____</p> <p>TOTAL _____</p>
<p>V. CARE & PROTECTION PETITIONS</p> <p>Initial Petitions Filed _____</p>	<p>VI. DYS COMMITMENTS</p> <p>TOTAL _____</p>
<p>VII. TRANSFER HEARINGS</p> <p>Hearings held _____</p> <p>Bindovers _____</p>	<p>VIII. COLLECTIONS</p> <p align="right">Whole Dollar Amount</p> <p>Restitution _____ .00</p> <p>Fines/Surfines/CMVI _____ .00</p> <p>Court Costs _____ .00</p> <p>Vol. Agreements _____ .00</p> <p>Reduced Counsel Fee _____ .00</p> <p>Victim/Witness Fee _____ .00</p> <p>Other _____ .00</p> <p>TOTAL COLLECTED _____ .00</p>
<p>IX. INDIVIDUALS ARRAIGNED</p> <p>TOTAL _____</p>	
<p>X. JURY OF SIX</p> <p>INITIAL APPEARANCE</p> <p>TOTAL _____</p>	

Signature: _____

Chief Probation Officer or Probation Officer-in-Charge

TABLE 3.14 Probate Court

**OFFICE OF THE COMMISSIONER OF PROBATION
MONTHLY REPORT OF PROBATION ACTIVITIES**

PROBATE AND FAMILY COURT PROBATION OFFICE
DIVISION: _____

MONTH _____ YEAR _____
COURT NUMBER _____

This form must be received by the Research & Statistical Bureau, Office of the Commissioner of Probation, 1 Ashburton Place, Room 405, Boston, MA 02108, by the 15th of each month.

I. INVESTIGATIONS
COMPLETED _____

II. MEDIATIONS
COMPLETED _____

III. SUPPORT SUPERVISION
Carry Over _____
New _____
Terminated _____
TOTAL _____

IV. CONTEMPTS
TOTAL _____

V. COLLECTIONS

Whole Dollar Amount

	<u>In State</u>	<u>Other States</u>	<u>TOTAL</u>
IV-D AFDC	.00	.00	.00
IV-D NON AFDC	.00	.00	.00
NON IV-D	.00	.00	.00

Signature: _____
Chief Probation Officer or Probation Officer-in-Charge

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Chapter IV

A HISTORICAL AND QUANTITATIVE EXAMINATION
OF THE CURRENT INFORMATION MANAGEMENT AND ANALYSIS
CAPACITY OF MASSACHUSETTS PROBATION

This chapter presents a review and evaluation of the current information collection, management and analysis capacity of the Massachusetts Probation System. The chapter is divided into three sections. The first section examines the historical development of the current information management policy and capacity of the Massachusetts Probation System. The historical context is examined because the goals, the structure, as well as the political and vested interests of institutions are major determinants of what information organizations collect and how such information is utilized within the organization.

The next two sections examine the two primary information systems currently in operation in Massachusetts Probation: 1) Risk/Need Classification System and 2) the Monthly Report of Probation Activity System (MRPA). These two systems represent the two major efforts of the Massachusetts Probation System to provide quantitative feedback to line probation officers as well as feedback to local and central office administrators.

A. Examination of The Historical Development of The Current Management Information of The Massachusetts Probation System

The first chapter of this study describes in detail the institutional transition the Massachusetts Probation System has made during the past decade. Briefly, Massachusetts Probation has moved from a system that: (1) was conceptually driven by a rehabilitation service delivery model; (2) was structurally decentralized; and (3) based both policy and procedure on the personality of local administration. Today the three focal concerns of the probation system are: (1) risk control; (2) centralization; and (3) probation by standards.

Below is a description of both the legislative and organizational context in which the present Probation Management Information policy was developed. The review of these two contexts attempts to highlight institutional factors which either facilitated or inhibited the development of the present management information policy and capacity of the Massachusetts Probation System. The third and final step in reviewing the historical evaluation of the present management information system is an examination of the specific steps taken to initiate the development and implementation of this system.

1. The Legislative Context of Change in The Massachusetts Probation System

The major event that made change possible was the Court Reorganization Act of 1978. This Legislative Act created a window of opportunity for management change and innovation for the Massachusetts Probation System. The legislation specifically required the Commissioner of Probation to develop, promulgate, and monitor standards of practice in all major areas of probation practice. The Commissioner was both empowered and directed to exercise "executive control and supervision: over probation personnel throughout the state" (MGL Ch. 276, Sec. 99).

Essentially the 1978 Court Reorganization Act confronted the Office of the Commissioner of Probation with a legislative mandate to manage and lead the Massachusetts Probation System. Faced with the need to create an organization that would be intelligent, accountable, and capable, the Commissioner needed to establish systems that would furnish reliable information in order to carry out the new mandate. The Commissioner needed reliable information in each of the following areas: operations; logistical support; management control; problem analysis; strategic planning; and general research.

In 1978 the Massachusetts Probation System lacked even the most basic operational information. Even though writers such as Mark McConkie (1976) had pointed out that the management and analysis of information was central to the

2. Organizational Context of Changes in The Massachusetts Probation System

The Court Reorganization Act of 1978 was the catalyst for a significant organizational development initiative in the Massachusetts Probation System. The legislation mandated that the Commissioner of Probation make a number of changes in the probation system. But due to the unique combination of a history of decentralized organizational management and the general lack of position power historically accruing to the Commissioner, a careful analysis and planning strategy regarding the use of this newly established power was crucial.

Planners in the Central Probation Office reviewed numerous studies on the interaction between organizational change and the institutional context of power and authority. In particular the developers of the probation information system had to plan for successful resolution of the inevitable conflicts that would arise, in order to bring these conflicts to a successful resolution. It was recognized that many of the conflicts would be over the issue of power and its role in this organizational change effort. Rensis and Jane Likert (1976) pointed out that individual and organizational conflict is inevitable in any organizational change process. They point out that the need to arrive at consensus decisions is vital. A win-win solution to organizational conflict, although hard to arrive at, has greater potential for effective organizational change. As the authors point out, in win-lose situations, victory brings elation for the winner,

but defeat brings feelings of rejection, failure, and impotence for the loser and is accompanied by bitterness and hostile attitudes.

The Massachusetts Probation System had to plan for the difficult and inevitable problems that significant social change creates: "social change involves redistribution of power and privilege; therefore, it will be resisted by some and sought by others; hence conflict" (Kelly 1969: 503).

Although power generally brings up negative connotations and images, it was also acknowledged that an important part of a successful organizational development and change strategy is the appropriate use of power; with power being defined by Amitar Etzionio as "an actor's ability to induce or influence another actor to carry out his directives or any other norms he supports" (1961:4) The classic work on power is The Prince by Machiavelli and in this work, he contended that it is best for the leader to be both feared and loved. Etzionio further refined this concept into the basic concept of position power and personal power. A person has position power when it is his/her position in the organization that enables them to induce someone to do something. If he/she derives influence from his/her followers he/she has personal power. Like Machiavelli, Etzionio contends it is best to have both position and personal power. Planners at the Probation Central Office recognized that in regard to members of the Massachusetts Probation System, the developers of the

information system had both position and personal power, but like most public administrators the position power was weak, therefore, it was important to use strategies that could capitalize on the position power, but more importantly to use strategies that improved the personal power.

Paul Hersey and Kenneth Blanchard (1977) made a further distinction, that planners considered important. Specifically that it was important for the developers of the probation information system, to distinguish between successful versus effective leadership and group performance. Success has to do with how the individual or group behaves. On the other hand, effectiveness describes the internal state or predisposition of an individual or a group and is thus attitudinal in nature. Success can be gained by use of position power and close supervision. Effectiveness is characterized by a more collaborative use of power and general supervision.

The central management in Massachusetts Probation chose to set up as many strategies as possible that would emphasize collaborative uses of power. With some 300 active participants out of a probation officer force of 1000 persons, a significant number of personnel had chosen to become active in the organizational change process. In the planning and analysis sessions regarding any facet of this change effort, the issue of passive and aggressive behavior was always studied. A practical rule of thumb that was used in analyzing

resistance and deciding how to use personal or positions power was; (1) if a person had power and did not want a particular change to occur they tended to be openly aggressive and hostile in their resistance, (2) if a person lacked power and did not want a particular change to occur they tended to be passive-aggressive. The most important lesson learned in this process was that silence did not equal agreement.

Therefore, as Edgar Huse (1975) points out, if a leader wants to try and balance individual and organizational needs; establish a win-win organizational climate; have long-lasting influence; and establish a climate of trust, collaboration and openness, he/she had better not avoid including in his/her thinking the problem of power and politics of change. These important lessons were not lost on the developers of the probation information system in Massachusetts.

3. Organizational Development Strategies Used to Facilitate The Introduction of Probations Current Information Systems

As Warren Bennis (1969), notes, "Organizational development is a response to change, a complex educational strategy intended to change the beliefs, attitudes, values, and structure of organizations" (pp. 1-2).

If the introduction of computers and information management was going to succeed, it was recognized by the central office administration that the organization would require an interactive plan that would include careful analysis of people, process and technology issues.

Importantly, the Commissioner of Probation and his planning staff were well aware of the complexity of the task facing them in their efforts to bring innovation and change to what had been a generally static organization.

A number of practical issues had to be considered in creating an organizational development plan. The goal of the plan was to develop an effective computerized information system. Some of the issues that had to be confronted in introducing information systems were: (1) power shifts in the organization, (2) fear of computerization on the part of some employees, (3) the fear of loss of information control by some employees. All of these issues were compounded by the unique combination of obstacles and organizational power issues found in the Massachusetts Probation System in the late 1970's.

In order to avoid potential pitfalls that could be created by only using pragmatic considerations in the planning process, the perspectives of a number of theorists were actively used in planning for the introduction of information management in Massachusetts Probation.

The works of Douglas MacGregor (1967), Kurt Lewin (1935), and Frederick Herzberg (1959) played a central role in planning for the introduction of information management in the Massachusetts Probation System. MacGregor's "Theory X and Theory Y" along with Lewin's "force-field analysis" were used to constantly analyze and maintain perspective on individual and organizational tensions arising from the introduction of

management information and technologies. In addition, Herzberg's theory of motivational job satisfaction was used to try and plan for worker involvement in the project of setting up the information system.

Two parallel approaches to introducing organizational change and innovation were employed. First, extensive efforts were made to provide technical assistance and training. Second, explicit efforts were made to establish a mechanism to reduce organizational conflicts arising from changing authority, structure, and organizational relationships.

a. Technical Assistance and Training Initiatives

It was apparent with the passage of the Court Reorganization Act that a number of people in the probation system were going to have to take on new job functions. It would have been foolish, as well as unfair, to try and institute the changes needed in probation without expanding the number of stakeholders in the organizational change effort.

Because of the fact that the Court Reorganization Act put a considerable number of demands on the Commissioner of Probation without expanding his staff, creative management practices were required in order to carry out the task of putting an effective and efficient organizational structure in place for probation.

Federal funding was still available in 1978. Therefore, money and technical assistance were requested from the

National Institute of Corrections to develop the Risk/Need Classification System. L.E.A.A. funding was also available. This money was used to create three positions in the central probation office. The functional responsibilities of the three people filling these positions were training, information systems development, and probation standards development. The L.E.A.A. funds were also used to hire Touche-Ross Associates to assist in the development of the Management Information System. Federal funds were also used to hire Robert Carkhuff Associates to do a task analysis of all of the employee functions in the probation system.

As the number of new and ongoing projects being developed in the Massachusetts Probation System expanded, task forces were established consisting of central office staff, local chief probation officers, assistant chief and line probation staff. The task forces became an integral part of the planning process. Whether the project was designing training programs, developing standards for field operations, or designing one of the new information systems, each court department (Superior, District, Juvenile, and Probate) had active committees working on those issues that were relevant to their department. At the height of this planning process there were upwards of 300 probation field personnel working with the central office staff in developing proposals and plans for the Commissioner of Probation.

Initially the training department carried the major

responsibility for this organizational change effort. Federal monies were used to hire experts in the area of management training. The emphasis in this early training was to change the attitudes and overcome some of the fears expressed by the Chief Probation Officers.

In conjunction with these short term training efforts major restructuring was also being implemented in the Massachusetts Probation System that had longterm benefits for training efforts. Specifically, a major change in the position of the Assistant Chief Probation Officer was being instituted. As Rensis and Jane Likert (1976) point out, in order to have a successful organizational change effort, a linking-pin position between management and line staff has to be created.

For the Massachusetts Probation System, the Assistant Chief's position had the greatest potential to perform this linking pin function. Historically, this position was awarded to a person based upon seniority and this person eventually became the Chief Probation Officer. A new task of local court trainer was added to the portfolio of the Assistant Chief, in 1978 this radical departure in job function was greeted with mixed feelings and had mixed results.

As Chris Argyris (1976) and Abraham Maslow (1970) point out, people are driven by individual need and there is usually a dichotomy between the need of the individual and the needs of the organization. For some Assistant Chief Probation

Officers their need level, coupled with their lack of preparation for this new role created considerable tension. For some Assistant Chiefs this new role was a welcome task. In all cases extensive training was given to all Local Trainers to prepare them for their new role. A secondary benefit of this training was found in the fact that this training was delivered by staff from the Office of the Commissioner of Probation (OCP). By delivering this training and thus reducing anxiety, the staff at OCP were seen as allies, not enemies.

Finally, two long term benefits were derived from the role change in the ACPO's position. First by 1987 ACPO positions were generally filled on the basis of competency and not seniority because the position now requires a fairly high degree of sophistication in order to be performed adequately. Second, a number of the earlier Local Trainers are now Chief Probation Officers and are generally supportive of ongoing organizational change.

In an effort to further reduce organizational anxiety, an extensive training program was developed for probation line personnel in areas such as, offender supervision, investigations, legal liability, substance abuse, and risk/need classification. The training department also set up an Annual Probation Conference in which out of state experts presented training in the latest innovative approaches in probation practices. In addition, committees of probation

line staff were established in each court department and money was set aside to develop and deliver specialized training proposed by each committee.

Through the use of training the number of stakeholders in this change process in probation was considerable. The energy level of the organization in the late 1970's was high and with a considerable amount of knowledge preparation and attitude change, the organization was better prepared to handle the development of an aggregate information system by 1980.

b. Specific Strategies Used to Develop and Implement the Present Management Information System

During 1979 and 1980 there was a considerable amount of activity in the Massachusetts Probation System. In an effort to capture a quantitative picture of what probation officers believed they should be doing on their job, a consultant was hired to develop a questionnaire and interview schedule to meet with probation officers regarding their present expectations and frustrations with their job functions.

The questionnaires showed overwhelmingly that the probation officers wanted to be able to spend more time on the field supervision of cases. In addition, many of the probation officers were concerned about their vulnerability in case a law suit was brought against them in the performance of their duties. Both of these issues were also of concern to management. It was decided that, given the crucial nature of a

large number of problems surrounding the supervision of offenders, the Risk/Need Classification Pilot Project would be started immediately.

During the pilot project fifteen court sites were selected. Some of the courts were selected because of the quality of work performed at the individual location. Some of the courts were selected because of the informal power position of the Chief Probation Officer (CPO) in the probation system. Others were selected because the office had a new CPO and they saw this as an opportunity to put their mark quickly on the local office. Also, during the project considerable training was offered, usually on an overnight all expense paid basis in the Cape Cod area. This tactic went a long way in putting line probation staff in a good frame of mind.

In addition, the pilot program received funds from the National Institute of Corrections and an outside consultant was hired to evaluate the predictability of the Risk/Need Instruments. The pilot stage worked out successfully and the system was instituted and is still presently in operation.

The next phase of organizational development was the development of the aggregate information system. This system was a priority of the Office of the Commissioner of Probation, but not necessarily of the local probation offices. Many of the successful strategies used to develop training and Risk/Need Classification for the probation system were also incorporated in developing plans for the aggregate information

system. The pace of this systems development was slower and more guarded because initially only central administration was eager to develop this aggregate system.

The first phase of the project to develop the aggregate probation management information system started in 1979. Committees of probation practitioners were organized from each of the four court departments (Superior, District, Juvenile and Probate). Each court department committee had fifteen members and had representation from the central office, local management, and line personnel. The committees as structured conformed with Hemple's (1983) notion that such committees should be made up of end users of the information system as being essential in the planning process.

The first issue dealt with by the Committees was to try and formalize the agency's goals. Formal and measurable goals are difficult to obtain in human service agency's in general (Quinn, 1976). In a decentralized, locally autonomous organization such as the Massachusetts Probation System, goal clarification was the major initial challenge.

It was apparent from the beginning that the new aggregate information system could threaten long standing perceptions about prestige, communication networks, and power in the organization. As James Sullivan (1981) points out, the introduction of a management information system brings about structural change in the organization. Many people were

benefiting from the old structure and did not welcome what was perceived as an intrusion on their territory. Some Chief Probation Officers had developed political power and had been able to inflate the size of their staff at the local offices. Now with the establishment of the information systems and central office monitoring of this system, they were not as able to further inflate the size of their staff.

All of the above issues had to be addressed by each committee, and the initial four months in this developmental process were dedicated to a full airing of these issues. The consultants retained for this stage of systems development were experts in group dynamics and they were able to move all four committees toward the goal of establishing an aggregate computerized information system.

Once these initial problems were overcome, the next stage in the systems development was to deal with the issue of getting all parties to agree on what information would meet the needs of the different levels of personnel within the organization.

People facing different job demands within an organization respond to information with different levels of appreciation. People working in the central probation administrative office and those working in local probation offices have different political cultures, community, and constituency pressures. These differences obviously shape

preferences as to what information is valued. Personnel from the local offices indicated that they most valued computer information that would increase their offices' ability to make routine decisions. The central administrative office also needs to monitor routine information, but the most valuable information for central management comes from exception reporting systems that signal in a timely manner a need that requires top management action. Therefore, the central office wanted a number of trend reports that could identify significant shifts in the organization.

The technical difficulty of meeting the needs of both groups and maintaining a balance between central and local offices would be made much easier by 1987 with the increased capacity of micro-computers. But, this option was not available to the systems developers in 1979. The project would be limited to making the system work on a main-frame computer that had limited capacity dedicated to use by probation. Therefore, in order to address the centralized decentralized information needs, it was agreed that information would only be collected on items that each party could prove was essential for their operations. The ideal that was constantly strived for was to collect items of information that both parties could effectively use.

Since this initial project was being funded by the last of L.E.A.A. funds, it was also imperative to meet the needs

of the funding source. The primary concern of the federal government in this project, was to be sure that the information would be monitored for reliability. This goal was consistent with the needs of both the local and central offices.

The disagreement between the central office and local managers was over how the system would be monitored. Since the initial system was going to be limited by computer capacity, the method of information collection was going to have to be by batch format. This batch format would require extensive monitoring in order to ensure reliability and future system improvement. The solution to this problem of how to monitor the system was to place the systems monitoring function in the newly established regional administration division at the Office of the Commissioner of Probation.

In the next stage of systems development, the agencies workflow had to be analyzed and information priorities had to be set. Because of the extensive human relations and group dynamics work already accomplished with all of the committees this phase of the project progressed rather smoothly (for results of categories selected see Appendix C in chapter three of this study).

Peter Drucker (1981) points out that the one sure way to guarantee project failure in a public bureaucracy is to fail to pilot test the new program. Determined to avoid this

failure, the systems developers followed the same strategy used in Risk/Need implementation and pilot tested their initial efforts at aggregate information collection during 1980. The results proved to be successful and the system was officially started in December of 1980. The system was further refined in 1983.

In 1987, the aggregate information system is officially called the Monthly Reporting of Probation Activity (MRPA). The process of information collection is carried out by having the local office report its prior month's activity to the central administrative office on or before the fifteenth of the month. The information is entered into the computer at the central office and selected reports are mailed to the local office before the end of the month. This information is also reported in an expanded format to the Commissioner of Probation, the Probation Regional Administrators and all of the Administrative Justices of the Trial Court.

Presently, Massachusetts is at the point that the aggregate and individual level information systems have to be evaluated in order to use the information to lay the groundwork for further change and innovation in the probation system.

B. Examination of Probation's Present Management
Information Capacity: The Risk/Need Information System
By the late 1970's the Massachusetts Probation System

came to grips with the fact that any decision made with respect to future events, behaviors, or activities of offenders is a predictive one. It became apparent that with the goal of "promoting law-abiding behavior by the offender while in the community", policy-makers in probation required more reliable predictive procedures in order to maximize the utility of probation supervision of offender behavior.

In the past, prediction about offenders has always been implicit in the decisions made by probation officers, but rarely has this fact been explicitly acknowledged (S.D. Gottfredson and D.M. Gottfredson, 1985). Indeed, as M. R. Gottfredson and D. M. Gottfredson (1980a) note, the American criminal justice system should be viewed as a network of interrelated decision points. When this is done, the ubiquity of prediction to most of the decisions encountered is made clear. The key in today's probation systems is to make the prediction tool explicit and subject to evaluation.

In contrast to how predictive decisions are typically made in the Criminal Justice System, D. M. Gottfredson, Hoffman et al 1975 have stated that decision makers in criminal justice need tools, that amongst other things make explicit the goals, nature, and outcome of the decision making process.

Goldkamp and Gottfredson, (1985; also see D.M. Gottfredson, Cosgrove, et al., 1978; M. R. Gottfredson and

D.M. Gottfredson, 1980b) suggest that four general concepts are of central importance in the implementation and evaluation of decision-making guidelines: visibility, rationality, equity, and effectiveness.

The Risk/Need Classification System was introduced into the Massachusetts Probation System in an effort to establish a visible, rational, equitable, and effective decision making tool that could measure the outcome of the offender supervision process.

The introduction of the Risk/Need System in Massachusetts Probation was accompanied by the most ambitious record keeping initiative ever undertaken by the Massachusetts Probation System in its history. Indeed, the Risk/Need System is predicated on the systematic and careful collection and analysis of offenders' specific information by probation officers. The following is an analysis of the information collected through this system. An examination of Risk/Need data will be undertaken and used to evaluate the population profile of offenders under supervision in the Massachusetts Probation System. The analysis is divided into three parts. The first reviews the information that is utilized by probation officers on a daily basis. The second reviews information periodically examined by Central Probation Administrators concerning the amount of supervision required by various offender subgroups. The final section of the analysis examines more refined ways for administrators to

utilize these data to understand the character of recidivism among offenders.

1. The Risk/Need Population Profile

Below is an examination of the population profile of probation offenders drawn from data collected through the Risk/Need Classification System. As previously noted, the Risk/Need System is used by the probation officers in the Superior, District, Boston Municipal and Juvenile Court Departments of the Commonwealth of Massachusetts. Through Risk/Need Classification, probationers' risk of committing another crime while in the community can be assessed and the degree of supervision established accordingly. High risk offenders are required to have more frequent contact with the probation officer than people whose characteristics put them in a lower risk probability group.

The present analysis is based upon a sample of 1963 probation cases placed under Risk/Need probation supervision in September 1982 and tracked for three years of follow-up. The present analysis first examines the three major types of information collected by the Risk/Need System: offender demographic characteristics; offender need characteristics and offender risk indicators. Offender demographic characteristics provide probation administrators with a basic demographic profile of the offender population. Need characteristics are used by probation officers and administrators to evaluate the potential service and/or

treatment needs of offenders under probation supervision. Finally, risk characteristics are used by probation officers and administrators to evaluate the risk of recidivism and the supervision required by offenders. The specific characteristics collected under this system are listed below. Each characteristic will be examined to determine their distribution within the offender population, as well as, their relationship to offender recidivism. In addition, previous research, by other investigators, on particular offender characteristics and recidivism is also reviewed.

Offender Demographic Characteristics

Recidivism by Gender
Recidivism by Age

Need/Strength Characteristics

Education
Employment
Marital/Family
Social
Alcohol
Other Drugs
Counseling
Financial Management
Motivation/Ability

Risk Characteristics

Recidivism by Prior Record
Recidivism by Prior Periods of Probation
Supervision
Recidivism by Age at First Offense
Recidivism by Family Structure
Recidivism by Number of Residence Change in Last
12 Months
Recidivism by Employment (Adults)/Education
(Juveniles)
Recidivism by Substance Abuse
Recidivism by Attitude
Recidivism by Risk Score

Offender Demographic Characteristics

a. Gender

Prior studies by Ball, Ross, and Simpson, 1964, Wolfgang, Figlio and Sellen, 1972; Gorden and Gleser, 1974; Polk et al., 1981; point out, that 85 to 90% of convicted criminals are males.

As the data in TABLE 4.1 indicates, the gender distribution of Massachusetts probationers conforms with previous research. In this study, about 86% of the probationers were male while about 14% were female. Finally, (as TABLE 4.2 shows) recidivism rates for males were somewhat higher than for females.

TABLE 4.1 Distribution of Offender by Gender

<u>Total Caseload</u>		
<u>GENDER</u>	<u>NUMBER</u>	<u>PERCENT</u>
MALES	1687	86.2
FEMALES	270	13.8
TOTAL	1957	100.0

TABLE 4.2 Gender and Recidivism

	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
MALES	1687	38.6	61.4
FEMALES	270	43.0	57.0

*Chi Square= 31.73564 DF= 1 P= 0.0000

b. Recidivism by Age

Numerous studies, such as, (Christensen, 1967; Belkin, Blumstein, and Glass, 1973; Blumstein and Graddy, 1982) have

constantly linked age to crime, and the findings in this present study are consistent with prior studies linking crime and age. Specially, the data in this study indicates that the median age for people under probation supervision is 20 years old. The data in TABLE 4.3 show, people between 10-29 years of age account for 80.7% of the Risk/Need cases. In contrast, the 1980 census of the general population in Massachusetts showed that this same 10-29 age group account for only 35.7% of the state's overall population. In terms of recidivism (see TABLE 4.4) the age groups 17-19 and 20-22 show the highest levels of recidivism, and the age group above 30 seem to show somewhat lower levels of recidivism.

TABLE 4.3 Age Distribution by Total Caseload

<u>AGE</u>	<u>NUMBER</u>	<u>PERCENT</u>
5 - 9	8	.4
10 - 14	74	4.0
15 - 16	185	10.0
17 - 19	404	22.0
20 - 22	309	16.8
23 - 29	462	25.1
30 - 34	156	8.5
35 - 39	97	5.3
40 - 44	59	3.2
45 +	83	4.5
TOTAL	1837	100.0

TABLE 4.4 Age Distribution and Recidivism

<u>AGE</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
5 - 9	8	37.5	62.5
10 - 14	74	41.9	58.1
15 - 16	185	40.5	59.5
17 - 19	404	31.7	68.3
20 - 22	309	29.8	70.2
23 - 29	462	39.6	60.4
30 - 34	156	53.2	46.8
35 - 39	97	45.4	54.6
40 - 44	59	52.5	47.5
45 +	83	79.5	20.5

* Chi Square= 95.607 DF=9 P= 0.0000

Offender Need/Strength Characteristics

With the establishment of the promotion of law-abiding behavior by the offender in the community as the primary goal of probation supervision, the Risk/Need Classification System was designed to measure the offenders' strength and/or deficiencies in the following categories.

Education	Other Drug Use
Employment	Counseling
Marital/Family Relationships	Financial Management
Social Relationships	Motivation/Ability
Alcohol Usage	

Within each variable category, there is a four point scale ranging from "serious problem" (scored as a "-2") to "no problem", which would be scored as "+2". At the initial assessment (usually within 30 days of being placed under probation supervision), the probation officer identifies problem areas and then determines the proper supervision plan to address potential problem areas.

Since many of the probationers have deficiencies in what would be called basic life survival coping skills, i.e., education, employment, social, financial, resources of the community must be used to overcome these deficiencies wherever possible.

The basic intent of a Risk/Need assessment system is that by identifying and then addressing offender needs probation may reduce future law-violating behavior. A review of contemporary Risk/Need research studies (Wisconsin

Division of Corrections, 1979; Fischer, 1980; National Institute of Corrections, 1981; Los Angeles County Probation Department, 1983; Georgia Department of Offender Rehabilitation, 1984; Wheeler et al., 1986) shows that probation systems nationally use needs assessments instruments as an integral part of their offender classification process.

c. Educational Needs

Prior studies show that educational attainment is related to offender recidivism (e.g., Vold, 1931; Kirby, 1954; Glaser, 1955; Babst, Inciardi; and Jaman, 1971; D.M. Gottfredson, Wilkins, and Hofman, 1978; Sullivan, et al., 1980; Baird, 1981).

The Massachusetts Risk/Need Classification System score the educational skills on a four point scale: 1. minimal skill, 2. low skill, 3. adequate skill and, 4. high school or above. Of the 1,958 offenders that were given an initial score for the educational skills variable, 116 (5.9%) were scored as having minimal skills (see Table 2.1.a) while 24.0% had achieved only low education skills. Thus, we find that nearly 30% of the sample (586 individuals) had inadequate educational skills. In support of this assessment we also find that only 37.6% of this sample had a level of education of high school or above.

The relationship between education needs and recidivism

were also examined. Of the 116 offenders who had only minimal educational skills, 67.2% committed a new offense within 36 months after being placed on probation. Of the 735 most educated offenders, 52.5% committed a new offense (see TABLE 4.6). As a whole, the lower the initial score, the greater the likelihood that a new offense would be committed. TABLE

4.5: Education Needs Assessment

<u>Category</u>	<u>Number</u>	<u>Percent</u>
Minimal Skills	116	5.9
Low Skills-Ability	470	24.0
Adequate Skill	637	32.5
H.S. or above skill	<u>735</u>	<u>37.6</u>
TOTAL	1958	100.0

TABLE 4.6: Education Needs and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Minimal Skills	116	33.6	66.4
Low Skills-Ability	470	31.7	68.3
Adequate Skill	637	42.2	57.8
High School or Above	735	47.6	52.4

Chi Square= 33.0849 D.F.= 3 P= 0.0000

d. Employment Needs

As James Q. Wilson and Richard J. Hernstein (1985) point out, criminals tend to have poorer employment records than non-criminals. According to these same authors, criminals also tend to have poor school experiences and are, therefore, not prepared for the working person's world. Elliott Currie (1985) points out that effective anti-crime policy requires "good jobs". Ellen Greenberger (1983) and

Laurence D. Steinberg, et al., (1982) point out in their studies that, if work does not provide either an adequate living or a sense of dignity and self-worth workers, will turn to various forms of anti-social and illegal behavior.

The employment dimension in this study attempts to measure the offender's job skills (i.e., is this person capable of securing and holding a job?). Over one third of the sample were unable to find work or were underemployed (see TABLE 4.7). About 8%(153 offenders) were considered to be unemployable. In contrast less than 26% were considered to have satisfactory employment. Thus, a significant minority (35%) had trouble finding and keeping work at a time when the overall Massachusetts unemployment rate in September, 1982 was 7.4%. The findings of this study indicate that probationers have poor employment records.

As TABLE 4.8 indicates, the stability of a satisfactory work history is related to lower rates of future criminal behavior. Those who possessed skills to obtain and keep a job were less of a risk to commit a new offense than those who lacked those skills.

Over 60% of this unemployable group (63.4) were recidivists (see TABLE 4.8). This compares to 49.4% recidivists in the group that was satisfactorily employed. Apparently, the group that possessed suitable skills but nonetheless had an unsatisfactory work history, had a somewhat higher percentage of recidivism, 63.9%.

TABLE 4.7 Employment Needs

<u>CATEGORY</u>	<u>NUMBER</u>	<u>PERCENT</u>
Unemployable	154	8.0
Unsatisfactory Employ.	521	27.0
Secure Employment	756	39.1
Satisfactory Employ.	501	25.9
TOTAL	1932	100.0

TABLE 4.8 Employment Needs and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Unemployable	153	36.4	63.4
Unsatisfactory Employ.	521	36.1	63.9
Secure Employment	757	40.1	59.9
Satisfactory Employ.	500	50.7	49.3

Chi Square= 26.063 D.F.= 3 P= 0.0000

e. Marital/Family Needs

Prior studies have shown that major stress, family break-up, and general family disorganization affect criminal behavior (e.g., F. Ivan Nye 1958; Edwin H. Sutherland and Donald R. Cressey, 1978; Donald West, 1982).

The marital/family dimension in this study attempts to measure the nature of the offender's primary personal relationships in terms of whether these relationships are disorganized and stressful or whether they provide support? When the two most stressful categories (major disorganization and some stress) are collapsed together, we find that 34.1% of this sample of probationers experienced some type of a stressful relationship (See TABLE 4.9).

In terms of recidivism, it is interesting to note that

only those offenders scored as having strong supportive primary relationships showed a significantly lower level of recidivism (See TABLE 4.10). Those who were in the most stable relationships (strong support) were least likely to commit a new offense, 49.5%.

TABLE 4.9 Marital/Family Needs Assessment

<u>Category Label</u>	<u>Number</u>	<u>Percent</u>
Major Disorganization	166	8.5
Some Stress	502	25.6%
Stable Relationships	787	40.2%
Strong Support	504	25.7%

TABLE 4.10 Marital/Family Needs and Recidivism

<u>CATEGORY LABEL</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Major Disorganization	166	36.7	63.3
Some Stress	502	37.6	62.4
Stable Relationships	787	38.4	61.6
Strong Support	505	50.5	49.5

Chi Square= 24.581 D.F.= 3 P=0.0000

f. Social Needs

Prior research by E. W. Burgess, 1928; C. Tibbets, 1931; L. Ohlin, 1951; B. C. Kirby, 1954; D. Glaser, 1955, 1964; F. H. Simon, 1971; indicates that social/peer relationships impact criminal behavior.

In line with this research the social need dimension of the Massachusetts Risk/Need system attempts to measure the nature of the individuals' peer group relationships. When the negative relationship scores are combined together (negative relationships and no peer support), we find that

39.5% of the sample has some type of negative peer group support (see TABLE 4.11).

In terms of future criminal activity negative peer support seems to be related to recidivism. Those individuals that had negative peer group support had recidivism percentages of 65.6% (negative peers) and 66% (occasional negative peers). Positive peer group support appears to be a factor in determining an offender's future behavior with a recidivism rate of 45% for the good peer support group (see TABLE 4.12).

Thus, negative peer groups may serve to undermine the probation officer's efforts. The probation officer sees the offender only on an intermittent basis, while the peer groups influence the offender over a longer period of time.

TABLE 4.11 Social Needs

<u>CATEGORY LABEL</u>	<u>NUMBER</u>	<u>PERCENT</u>
Non or Neg. Peer Group	131	6.7
Occas. Neg. Peer Group	641	32.8
No. Neg. Relationships	829	42.5
Good Peer Support	<u>351</u>	<u>18.0</u>
TOTAL	1952	100.0

TABLE 4.12 Social Needs and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
None or Neg. Peer Group	131	34.4	65.6
Occas. Neg. Peer Group	641	34.0	66.0
No. Neg. Relationships	829	42.1	57.9
Good Peer Support	351	55.0	45.0

Chi Square= 44.010 D.F.= 3 P= 0.0000

g. Alcohol Usage

Extensive research has shown that problematic alcohol use is correlated with offender recidivism (e.g., Vold, 1931; Hakeem, 1948; Ohlin, 1951; Mannheim and Wilkins, 1955; Glaser, 1964; D. M. Gottfredson and Ballard, 1965; D. M. Gottfredson, 1967; Babst, Koval, and Neithercutt, 1972; Palmer and Carlson, 1976; Brown, 1978; S. D. Gottfredson and D. M. Gottfredson, 1979; Schmidt and White, 1979).

Many offenders in this study had problems with alcohol abuse. Of the 1,960 analyzed cases, 166 (8.5%) were frequent abusers of alcohol. Another 476 person (24.3%) occasionally abused alcohol (see TABLE 4.13).

Among the frequent abusers, 66.1% committed a new crime compared to 51.4% of those who reported not using alcohol at all (see TABLE 4.14). The differential seems to suggest that alcohol problems may be related to criminal behavior. If true, then programs that deal successfully with alcohol abuse may have a concomitant affect upon the crime rate as well.

TABLE 4.13 Alcohol Use

<u>CATEGORY LABEL</u>	<u>NUMBER</u>	<u>PERCENT</u>
Frequent Abuse	166	8.5
Occasional Abuse	476	24.3
No Difficulties	776	39.6
No Known Use	<u>542</u>	<u>27.6</u>
TOTAL	1960	100.0

TABLE 4.14 Alcohol Use and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Frequent Abuse	166	33.9	66.1
Occasional Abuse	475	37.4	62.6
No Difficulties	776	39.8	60.2
No Known Use	542	48.6	51.4

Chi Square= 19.434 D.F.= 3 P= 0.0002

h. Drugs

A number of prior studies have shown a relationship between drug abuse and repeated criminal behavior (e.g., Babot, Inciardi, and Jaman, 1971; D. M. Gottfredson, Cosgrove et al., 1978; Brown, 1978).

Drug use was a problem with 20% of the offenders in the sample, with less than 4% being frequent drug abusers (see TABLE 4.15). In this study 80.0% of the sample had no difficulties with drug (no difficulties and no known use).

Over 70% of the people who were frequent abusers were recidivists, (71.4%) (See TABLE 4.16). Those who didn't report using drugs at all were less likely to have committed a new offense (51.4%). Based on these data, there appears to be a relationship between the extent of a drug problem and the probability that an offender will commit a new offense.

TABLE 4.15: Drug Use

<u>Category Label</u>	<u>Number</u>	<u>Percent</u>
Frequent Abuse	70	3.6
Occasional Abuse	322	16.4
No Difficulties	797	40.7
No Known Use	<u>769</u>	<u>39.3</u>
TOTAL	1958	100.0

TABLE 4.16 Drug Use and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Frequent Abuse	70	28.6	71.4
Occasional Abuse	322	34.8	65.2
No Difficulties	797	39.8	60.2
No Known Use	769	48.6	51.4
Chi Square= 19.434	D.F.= 3	P= 0.0002	

i. Behavioral Problems

A variety of studies have shown that behavioral problems are a good indication of future offender problems. In a 1981 California Youth Authority study, constant behavioral adjustment problems proved to be an early and consistent predictor of chronic offenders. Greenwood and Abrahamse's 1984 study on Selective Incapacitation also identified serious behavioral problems as a predictor of chronic offending. In the 1950's Albert Bandura and Richard Walters identified behavior problems amongst youngsters as a predictor of future problems. Extensive research has also shown that there is a relationship between child rearing practices, child abuse, and inappropriate acting out behavior by offenders (e.g., Fraley, 1983; Newberger and Cook, 1983 Garbarino, Sebes, and Schellenback, 1984).

In this study a large number of offenders exhibited behavior problems that suggest the need for counseling. Indeed the combined categories of severe, and some behavior problems accounted for 733 offenders or 27.4% of the total sample of offender. About 23.2% were well-adjusted

individuals, with no need for counseling. The remainder (39.4%) were able to function independently (see TABLE 4.17)

Of those having severe behavioral problems, 63.4% recidivated compared to 49% of those having no behavioral problems at all (see TABLE 4.18). Interestingly however, only those offenders classified as well-adjusted appeared to be significantly less prone to commit a new offense.

TABLE 4.17 Behavioral Problems

<u>Category Label</u>	<u>Number</u>	<u>Percent</u>
Severe Behavior Problems	113	5.8
Some Behavior Problems	620	21.6
Able to Function	771	39.4
Well Adjusted	455	23.2
TOTAL	1959	100.0

TABLE 4.18 Behavioral Problems and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Severe Behavior Problems	113	36.6	63.4
Some Behavior Problems	620	36.8	63.2
Able to Function	771	39.3	60.7
Well Adjusted	445	51.0	49.0

Chi Square= 25.744 D.F.= 3 P= 0.0000

j. Financial Management Needs

This category was included in the need section, based upon common-sense as opposed to any known body of research that could demonstrate that poor financial management was associated with criminal behavior.

Theoretically, some offenders may have trouble managing their finances which subsequently induces them to commit

crimes. This study indicates that 34.5% of the sample reported some degree of difficulty in managing their money (see TABLE 4.19).

Among those who had serious difficulty in handling their money, 57.4% were recidivists, while 66.0% of those who had minor problems with money committed a new offense (see TABLE 4.20. Of those with no difficulties, 58.2% committed a new offense, while 50% of the self-sufficient group had recidivated.

TABLE 4.19 Financial Management Assessment

<u>CATEGORY LABEL</u>	<u>NUMBER</u>	<u>PERCENT</u>
Severe Difficulties	101	5.2
Minor Difficulties	564	29.3
No Difficulties	840	43.6
Self-Sufficiency	<u>420</u>	<u>21.8</u>
TOTAL	1925	100.0

TABLE 4.20 Financial Management Assessment and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Severe Difficulties	102	42.6	57.4
Minor Difficulties	563	34.0	66.0
No Difficulties	841	41.8	58.2
Self-Sufficiency	420	50.0	50.0
Chi Square = 25.504		D.F. = 3	P = 0.0000

k. Offender Motivation/Ability

The motivation dimension of the Risk/Need system was developed to determine if offenders were likely to be receptive to probation supervision. The categories drawn from Hersey and Blanchard's Situational Leadership model were the offenders' motivation and ability. The categories are

intended to be a subjective measure of the offenders potential of living a law abiding life.

As TABLE 4.21 indicates, most offenders were able to address their problems. Many were both able and willing to change (40.6%), while a few were neither able nor willing (4.8%) (see TABLE 4.21). The remainder were either willing but unable (18.4%) or able but unwilling (36.2%).

Those least capable of dealing with their problems were most likely to commit a new offense (66.0%), while those who were the most capable were less likely to commit a crime (54.3%) (see Table 4.22). Those who were willing to take responsibility for their own actions were less likely to continue in crime than those who blamed others for their problems. Offenders with a negative attitude tend to rationalize their criminality and as a result this rationalization allows them to continue their criminal careers. Unable translates into lack of skill in handling problem areas, thus a person who may be motivated in wanting to change cannot change if they lack general life skills, such as the ability to gain employment, handle finances, maintain positive relationships, etc.

TABLE 4.21 Motivation/Ability Assessment

<u>CATEGORY LABEL</u>	<u>NUMBER</u>	<u>PERCENT</u>
Unable Address Problems	94	4.8
Willing but Unable	359	18.4
Able but Unwilling	707	36.2
No Problem	795	40.6
TOTAL	1955	100.0

TABLE 4.22 Motivation/Ability Assessment and Recidivism

<u>CATEGORY</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Unable Address Problems	94	34.0	66.0
Willing but Unable	359	38.2	61.8
Able but Unwilling	708	38.8	61.2
No Problem	795	45.5	54.5
<u>TOTAL</u>	<u>1956</u>		
Chi Square = 11.146 D.F. = 3 P = 0.0110			

Offender Risk Characteristics

The data were analyzed to assess the relationship between each of the offender characteristics on the Risk scale and recidivism.

e. Prior Record

There is an extensive body of research that demonstrates a high rate of consistency between a prior record by the offender and recidivism (e.g., Wolfgang, Figlio, and Sellin, 1972; Blumstein and Cohen, 1979; Peterson and Braiker, 1980; Cohen, 1981; Greenwood, 1982; Elliot et al., 1983; Farrington, 1984).

In line with the above body of research, this study found that over 68% of offenders with three or more prior offenses in the last 5 years recidivated during the studied time period compared to less than 43% of offenders with no prior offenses. (See TABLE 4.24)

TABLE 4.23 Prior Record (Last 5 years)

<u># OF PRIORS</u>	<u>NUMBER</u>	<u>PERCENT</u>
0	496	25.3
1	285	14.5
2	185	9.4
3+	997	50.8
<u>TOTAL</u>	<u>1963</u>	<u>100.0</u>

TABLE 4.24 Prior Record and Recidivism

<u>RECORD # OF PRIORS</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
0	496	57.3	42.7
1	285	43.2	56.8
2	185	43.2	56.8
3+	<u>997</u>	31.9	68.1
TOTAL	1963		

Chi Square=89.031 D.F.= 3 P= 0.0000

Offenders with 3 or more prior offenses accounted for 50.8% of the offenders in this sample. (See TABLE 4.23) Overall in this study 74.7% of the offenders had at least one prior offense on their record.

m. Prior Probation Supervision

Offenders prior records are also examined in terms of the number of prior periods of probation supervision. Prior studies (such as Baird, Heinz, and Bemus 1979; Sullivan, Wilson, and Rogers, 1980; Sullivan, 1981; Cochran, Brown and Kazarian, 1981; Cochran and Brown, 1984) have shown a strong correlation between recidivism and prior periods of probation supervision.

Not surprisingly the pattern of recidivism found for prior number of supervisions in TABLE 4.25 closely parallel the pattern observed above for prior records. Nearly 69% of those who had been under probation supervision two or more times previously recidivated in this study, compared to less than 49% of those who had never been on probation before.

TABLE 4.25 Prior Terms of Probation

<u># PRIOR PROBATIONS</u>	<u>NUMBER</u>	<u>PERCENT</u>
0	828	42.2
1	388	19.8
2+	<u>747</u>	<u>38.1</u>
TOTAL CASES	1963	100.0

TABLE 4.26 Prior Terms and Recidivism

<u># PRIOR PROBATIONS</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
0	828	51.4	48.6
1	388	37.6	62.4
2+	<u>747</u>	31.6	68.4
TOTAL CASES	1963		

Chi Square= 66.423 D.F.= 2 P= 0.0000

Offenders with two or more prior terms of probation supervision accounted for 38.1 percent of the sample and those with no prior terms accounted for 42.2 percent. (See TABLE 4.25).

n. Age at First Offense

The assumption in using age at first offense as a risk indicator is that the earlier a person starts his/her criminal career, the higher the rate of future recidivism. Prior studies, such as, Wolfgang, Figlio, and Sellin, 1972; Cohen, 1981; Greenwood and Abrahamse, 1982; Farrington, 1984 demonstrate that the earlier the age onset of a first offense, the higher the probability that an offender will recidivate. In line with this assumption and previous research we find that 68.4% of those with a first offense at the age 16 or

younger recidivated compared to only 32.8% of those whose first offense was age 24 or older. (See TABLE 4.28)

Offenders who initiated their criminal career at 16 years of age or earlier accounted for 49.3 percent of the total sample. (See TABLE 4.27)

TABLE 4.27 Age at First Offense

<u>AGE AT 1ST OFFENSE</u>	<u>NUMBER</u>	<u>PERCENT</u>
16 yrs. or younger	966	49.3
17-19 yrs.	474	24.2
20-23 yrs.	227	11.6
24 yrs. or older	293	14.9
TOTAL	<u>1960</u>	<u>100.0</u>

TABLE 4.28 Age of First Offense and Recidivism

<u>AGE AT 1ST OFFENSE</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
16 yrs. or younger	966	31.6	68.4
17-19 yrs.	474	39.7	60.3
20-23 yrs.	227	52.0	48.0
24 yrs. or older	293	67.2	32.8
TOTAL	<u>1960</u>	100.0	

Chi Square= 130.268 D.F.=3 P=0.0000

o. Family Status

The strength of family ties was also examined in relation to recidivism and the assumption was that the weaker a person's family ties, the higher the rate of recidivism. Indeed, prior research indicates that lack of family ties and single offenders have a higher rate of recidivism than do offenders who are married or single with strong family ties. (see, Burgess 1928; Vold, 1931; Kirby, 1954; Simon 1971;

Palmer and Carson, 1976; S. D. Gottfredson and D.M. Gottfredson, 1979).

As with prior research finding, this study shows that offenders who have no family ties have a recidivism rate of nearly 67%, compared to a 47.1% recidivism rate for people who are responsible for and supporting their own children. (See TABLE 4.30)

TABLE 4.29 Family Structure

<u>FAMILY STRUCTURE</u>	<u>NUMBER</u>	<u>PERCENT</u>
No Family Ties	193	9.8
Resides in One Parent Home	443	22.6
Parent Not Support Children	99	5.0
Single with Strong Family Ties; or Married No kids	358	18.2
Resides in Two Parent Home	613	31.2
Parent Supporting Children	257	13.1
TOTAL	1963	100.0

TABLE 4.30 Family Structure and Recidivism

<u>FAMILY STRUCTURE</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
No Family Ties	193	33.7	66.3
Resides in One Parent Home	443	35.9	64.1
Parent Not Support Children	99	53.5	46.5
Single with Strong Family Ties; or Married No kids	358	43.7	56.3
Resides in Two Parent Home	613	38.8	61.2
Parent Supporting Children	257	52.9	47.1
TOTAL	1963	100.0	

Chi Square 32.186

D.F.= 5

P= 0.0000

How transient an offender is (how often he/she moves their place of residence) is also included as a risk factor. The assumption for this dimension is that the more a person moves his/her place of residence in a year, the higher the rate of recidivism. Although no body of research supports the selection of this risk factor, it was selected because to the extent rehabilitation of the offender takes place within the community, it was believed that offenders with a stable residence, and therefore, presumably stronger community ties would have more successful probation outcomes.

TABLE 4.31 Residence Change

<u>NUMBER OF RESIDENCE CHANGES</u>	<u>NUMBER</u>	<u>PERCENT</u>
0	1236	63.6
1	419	21.6
2+	287	14.8
TOTAL	<u>1942</u>	<u>100.0</u>

TABLE 4.32 Residence Change and Recidivism

<u>NUMBER OF RESIDENCE CHANGES</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
0	1236	42.2	57.8
1	419	43.4	56.6
2+	287	33.8	66.2
TOTAL	<u>1942</u>		
Chi Square = 7.819		D.F. = 2	P = 0.0200

The data in TABLE 4.32 show that people who move two or more times in a 12-month period have a nearly 66% rate of

recidivism compared to 58% for those who did not move at all or moved only once in the previous year. Moving twice within one year would probably be symptomatic of financial, employment or family problems. The results conform to the assumptions underlying this risk indicator. However the relationship between residence change and recidivism is fairly modest.

Interesting, a majority of the offenders in our sample (See TABLE 4.32) showed no residence change in the twelve months prior to starting probation supervision.

p. Employment Status (Adults) School Attendance
(Juveniles)

Research has constantly demonstrated that offenders who are unemployed or out of school for substantial periods of time commit crimes at a higher rate than persons who are employed or functioning effectively as full-time students (Blumstein et al., 1986).

One of the assumptions underlying these risk indicators were that the less time a person is working or attending school, the higher the rate of recidivism. In analyzing this "free" time risk indicator the data were broken down by adults compared to juveniles, since adults are generally in the employment market while juveniles would generally be attending school. Where these institutional supports break down, one would expect the concomitant free time to lend itself to further crime.

TABLE 4.33 Employment Status (Adults)

<u>MONTHS EMPLOYED</u>	<u>NUMBER</u>	<u>PERCENT</u>
9 Mo. or more	724	46.0
7-8 months	126	8.1
5-6 months	129	8.2
3-4 months	112	7.2
2 mo. or less	<u>477</u>	<u>30.4</u>
TOTAL	1568	100.0

TABLE 4.34 Employment Status and Recidivism

<u>MONTHS EMPLOYED</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
9 Mo. or more	724	44.2	55.8
7-8 months	126	38.1	61.9
5-6 months	129	37.2	62.8
3-4 months	112	33.0	67.0
2 mo. or less	<u>477</u>	36.5	63.5

TOTAL

1568

Chi Square = 10.658

D.F. = 4

P = 0.0307

Examination of the relationship between employment and recidivism (See TABLE 4.34) shows that only at the level of 9 months or more employed do we observe a substantial decrease in recidivism. Offenders employed 9 months or more during a year show a 55.8% recidivism rate. Whereas offenders with less than 9 months employed show recidivism rates above 60 percent.

Anyone working less than 9 months would be considered marginally employed and as the data in TABLE 4.33 illustrated, 54% of the adult offenders fell into that category. (See TABLE 4.33). This is significant, since the statewide unemployment rate in September, 1982 was 7.4%.

Looking at this same variable from the standpoint of juveniles, the findings are generally in the predicted direction. Students being absent from school 10 days or less showed a recidivism rate of 50.8 percent. Whereas students with more days absent from school generally showed considerable higher rates of recidivism (See TABLE 4.36) In terms of the students in our sample of offenders 49.2 percent were absent from school 10 days or less during the school year. In prior research studies, the average absenteeism rate from various school districts across the state was from 1.5 days per year in a number of wealthy suburbs to 19 days in our large urban schools.

TABLE 4.35 School Attendance (Juvenile)

<u>DAYS ABSENT FROM SCHOOL</u>	<u>NUMBER</u>	<u>PERCENT</u>
10 days or less	126	47.4
11 - 15 days	35	13.2
16 - 20 days	32	12.0
21 - 25 days	11	4.1
26 or more days absent	<u>62</u>	<u>23.3</u>
TOTAL	266	100.0

TABLE 4.36 School Attendance and Recidivism

<u>DAYS ABSENT FROM SCHOOL</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
10 days or less	126	49.2	50.8
11 - 15 days	35	28.6	71.4
16 - 20 days	32	40.6	59.4
21 - 25 days	11	18.2	81.8
26 or more days absent	<u>62</u>	35.5	64.5
TOTAL	266		

Chi Square= 8.894

D.F.= 4

P= 0.0638

q. Substance Abuse

Extensive research regarding alcohol and drug abuse, (e.g., Babot, Inciardi, and Janman, 1971; Palmer and Carson, 1976; Brown, 1978; D.M. Gottfredson, Cosgrove et al., 1978; Schmidt and White, 1979) has shown a high correlation between substance abuse and crime. Therefore, the assumption underlying this risk indicator is the greater a person's frequency of abuse of alcohol or other drugs, the higher the rate of recidivism.

As is evident in TABLE 4.38, people who have no identified substance abuse problem have a lower probability of recidivism than people with current or prior problems. Interestingly however, frequent abusers do not appear substantially more likely to recidivate than offenders with no stated problem (58.6% versus 54.2%). Nevertheless what is of concern is that over 50% of the study subjects had a stated or acknowledged current or prior alcohol or drug problem.

TABLE 4.37 Substance Abuse

<u>ALCOHOL/ DRUGS</u>	<u>NUMBER</u>	<u>PERCENT</u>
Frequent abuse	128	6.5
In Treatment	187	9.5
Occasional Abuse	413	21.1
Prior Problem	258	13.2
No Problem	<u>974</u>	<u>49.7</u>
TOTAL	1960	100.0

TABLE 4.38 Substance Abuse and Recidivism

<u>ALCOHOL/ DRUGS</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Frequent abuse	128	41.4	58.6
In Treatment	187	38.5	61.5
Occasional Abuse	413	34.6	65.4
Prior Problem	258	36.0	64.0
No Problem	974	45.8	54.2
TOTAL	1960		
	Chi Square= 19.239	D.F.= 4	P= 0.0007

r. Offender Recidivism by Attitude

While the prior risk indicators were largely based on behavioral measures and thus presumably somewhat objective, one indicator has been included which is clearly a subjective measure of risk: the offender's motivation to change his/her behavior.

As is apparent in TABLE 4.40, people who are perceived as being motivated to accept responsibility for their action showed a lower rate of recidivism (49.1%) than offenders who are perceived dependent or unwilling to accept responsibility.

TABLE 4.39 Offender Attitude

<u>ATTITUDE</u>	<u>NUMBER</u>	<u>PERCENT</u>
Rationalizes negative behavior; not motivated to change	112	5.7
Dependent or unwilling to accept responsibility	303	15.5
Motivated to change; receptive to assistance	957	48.9
Motivated; well adjusted; accepts responsibilities for action	588	30.0
TOTAL	1960	100.0

TABLE 4.40 Attitude and Recidivism

<u>ATTITUDE</u>	<u>TOTAL CASELOAD</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Rationalizes negative behavior; not motivated to change	112	33.0	67.0
Dependent or unwilling to accept responsibility	303	34.7	65.3
Motivated to change; receptive to assistance	957	38.2	61.8
Motivated; well adjusted; accepts responsibilities for action	588	50.9	49.1
TOTAL	<u>1960</u>		

Chi Square= 34.503

D.F.=3

P=0.0000

s. Recidivism by Risk Score

The previous tables have examined the relationship between variables measuring probationers' risk to the community. As might be expected, the numerical total on the risk scale as a whole was also an important prediction tool regarding recidivism. Since the numerical total is a reflection of the strength of the coding of the eight individual risk variables, one would expect the numerical total to be significant and the data indicate this to be the case.

The data in TABLE 4.41 show the recidivism rate by individual numerical score:

TABLE 4.41 Recidivism by Total Risk Score

<u>RISK SCORE</u>	<u>TOTAL # OF OFFENDER</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
2	4	25.0	75.0
3	6	50.0	50.0
4	11	18.2	81.8
5	6	16.7	83.3
6	18	38.9	61.1
7	20	35.0	65.0
8	41	14.6	85.4
9	37	24.3	75.7
10	56	23.2	76.8
11	50	32.0	68.0
12	75	29.3	70.7
13	86	29.1	70.9
14	84	26.2	73.8
15	115	22.6	77.4
16	112	29.5	70.5
17	118	31.4	68.6
18	111	46.8	53.2
19	121	30.6	69.4
20	123	41.5	58.5
21	105	45.7	54.3
22	106	51.9	48.1
23	95	48.4	51.6
24	108	55.6	44.4
25	88	54.5	45.5
26	82	65.9	34.1
27	77	72.7	27.3
28	55	52.7	47.3
29	19	73.7	26.3
30	17	88.2	11.8
31	<u>17</u>	<u>82.4</u>	<u>17.6</u>
TOTAL	1963	41.2	58.8

Chi Square= 196.818

D.F.= 29

P= 0.0000

These rates of recidivism are consistent with recent studies by Pettersillia et al., 1985; Williams, 1986; Beck, 1987.

2. Level of Supervision and Offense Characteristics

t. Term of Supervision by Court Level

According to the data in Table 4.42, the average person

on probation in Massachusetts under Risk/Need Classification is under supervision for nearly 17 months. The average term of supervision is 11 months for juveniles, compared to nearly 17 months for adults in District and Boston Municipal Courts and over 30 months in the Superior Court Department.

TABLE 4.42 Average Term of Supervision by Court Level

<u>Court Level</u>	<u>Average Number of Months</u>
Superior	30.5 months
District/BMC	17.2 months
Juvenile	11.2 months
OVERALL	17.1 months

u. Recidivism by Level of Supervision

A critical assumption in the Risk/Need Classification System is that the high risk offenders (i.e., those under Maximum supervision) pose a greater probability of recidivism than those being supervised in the other two categories. Therefore, the study tested the hypothesis that recidivism will not be equal across all risk scores and the lower the risk score, the higher the rate of recidivism.

Clearly, the data in TABLE 4.43 supports the hypothesis that higher risk offenders have a higher rate of recidivism than those with lower risk on the risk scale. Nearly three quarters of the people classified as "Maximum" (i.e., offenders with risk scores of 2 to 14) risk were subsequently recidivists, compared to 62% of those classified as "Moderate" (i.e., offenders with risk scores of 15 to 23) and 38% of those classified as "Minimum" (i.e., offenders with risk scores of 24 to 31).

TABLE 4.43 Recidivism by Level of Supervision

<u>SUPERVISION</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
MAX (2-14)	26.6	73.4
MOD (15-23)	38.2	61.8
MIN (24-31)	62.5	37.5
Chi Square= 135.930	D.F.=22	P=0.0000

v. Level of Supervision by Court Level

Of interest is the range of supervision levels in each court. According to the data in TABLE 4.44, 14% of the juveniles, compared to over 28% of the adults were classified as needing supervision in the "Maximum" Level.

TABLE 4.44 Level of Supervision by Court

<u>LEVEL OF SUPERVISION</u>	<u>DISTRICT</u>	<u>SUPERIOR</u>	<u>JUVENILE</u>	<u>TOTAL CASELOAD</u>
Maximum	29.3	23.4	13.9	25.1
Moderate	48.4	49.5	57.4	50.7
Minimum	<u>22.3</u>	<u>27.0</u>	<u>28.7</u>	<u>24.2</u>
TOTAL %	100.0	100.0	100.0	100.0
Case Number	(1307)	(188)	(453)	(1961)

Chi Square

w. Offense Category by Court Level

Inasmuch as one would assume that the type of offense would vary by court level, the offense category data were analyzed for Superior, District/Boston Municipal and Juvenile Court levels.

As the data in TABLE 4.45 show, 29% of those in Superior Court compared to less than 18% in the District/Boston Municipal Court Department and about 13% of the juveniles were under probation supervision for a crime against the person. Conversely, juveniles were most often under probation supervision for a property crime, accounting for 58% of the juvenile cases in the study compared to 38% of those in the District/Boston Municipal Courts and 37% of those in the Superior Court.

TABLE 4.45 Present Offense by Court

<u>OFFENSE CATEGORY</u>	<u>PERCENT SUPERIOR</u>	<u>PERCENT DISTRICT/BMC</u>	<u>PERCENT JUVENILE</u>	<u>PERCENT ALL COURTS</u>
Crime Ag. Person	29.0	17.8	13.0	17.7
Crime Ag. Property	37.1	37.9	58.1	42.5
Major Motor Vehicle	0	23.2	6.0	17.0
Public Order	1.6	5.7	10.4	6.4
Controlled Substance	30.1	12.4	8.4	13.2
TOTAL PERCENT	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
CASES	(186)	(1307)	(453)	(1946)
Chi Square = 217.046	D.F.=10		P=0.0000	

x. Recidivism by Offense Category

To further profile the person under Risk/Need Classification in Massachusetts, the recidivism data were analyzed by Offense categories. As the data in TABLE 4.46 illustrate, public order crimes reflected the highest rate of recidivism, while controlled substance violations showed the lowest.

TABLE 4.46 Category and Recidivism

<u>INSTANT OFFENSE</u>	<u>NUMBER</u>	<u>PERCENT SUCCESSFUL</u>	<u>PERCENT RECIDIVISTS</u>
Violent Crime	346	41.9	58.1
Property Crime	831	40.0	60.0
Motor Vehicle	345	43.6	56.4
Public Order	124	29.8	70.2
Control Subst.	257	46.7	53.3
Other Offenses	64	39.1	60.9
TOTAL	1957		

These findings are consistent with a long history of extensive research linking recidivism and offense categories (see, Glueck & Glueck, 1940; McCord and McCord, 1959; Wolfgang, Figlio, and Sellin, 1972; Moitra, 1981; Petersillia, et al., 1985).

3. A Refined Analysis of Offender Recidivism

As noted in Chapter III, a useful approach to modeling offender recidivism can be found in the family of statistical techniques known as "survival" or "time-to-failure" techniques (Gross and Clark, 1975). In the field of criminal justice, these techniques have been used to analyze recidivism as measured by: reimprisonment, reconviction, and rearrest (see Maltz, 1984 and Illinois Criminal Justice Authority, 1986).

This type of analysis is possible with probation data because the Office of the Commissioner of Probation's criminal history database contains extensive information on the offender's criminal career (including the type of offense

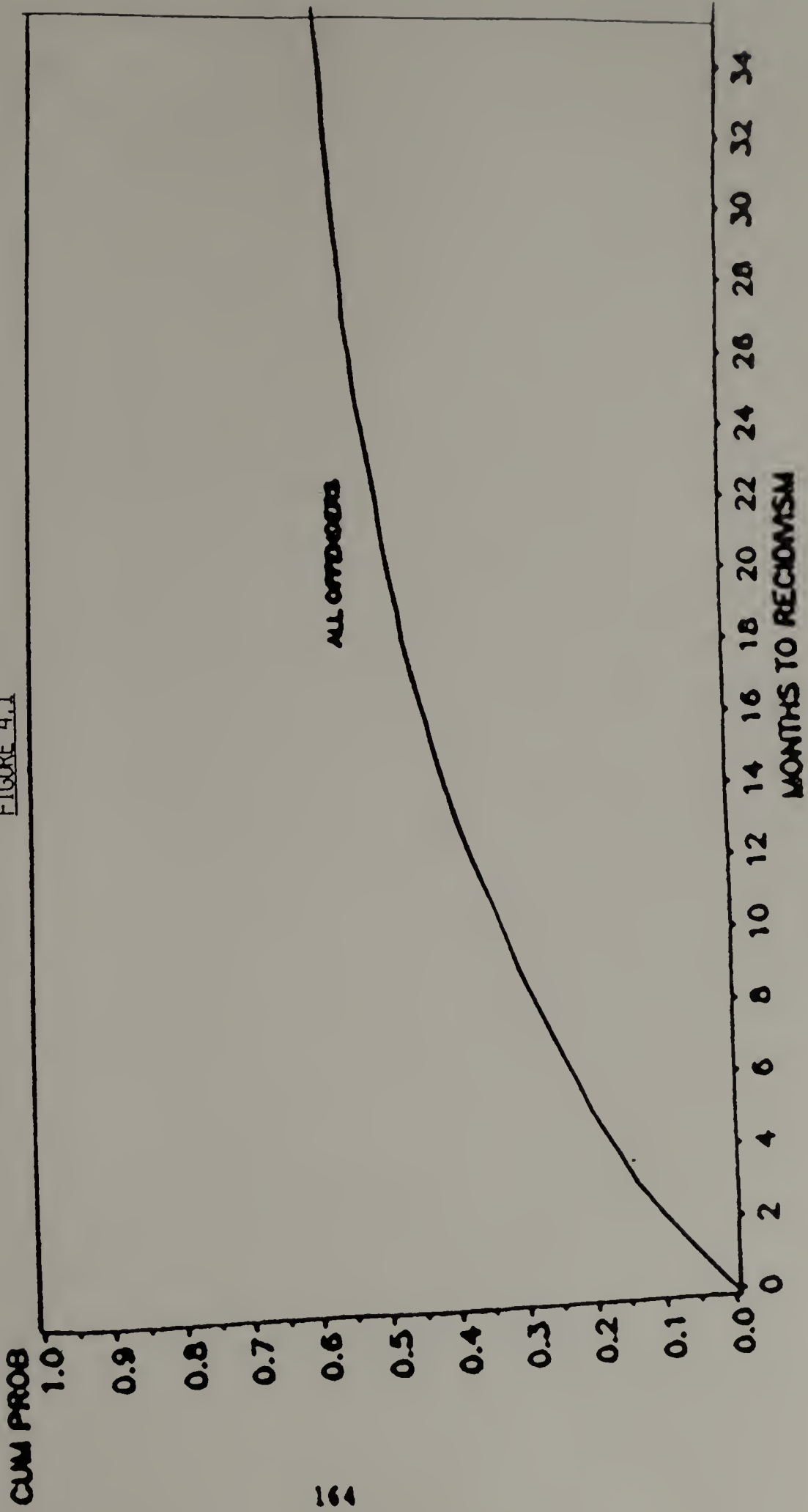
analyses of the cumulative recidivism distribution are important because they provide a summary measure of the total rate of failure after a specified length of time.

A comparison of these two types of distributions across offender subgroups is also an important analytic procedure. Using this approach it is possible to analyze patterns of recidivism across different offender subgroups in order to determine whether there are divergent patterns of recidivism among different types of offenders. The ability to detect and model such mixed distributions is essential for the work proposed here, since it is quite possible that some policies would be appropriate for supervision of high risk offender, while others might be more appropriate for low risk offenders. If the study were to examine only the measure of central tendency across various groups of offenders, the potential differential patterns when offenders recidivate (e.g., maximum versus minimum supervision offenders) would be missed without examination of the hazard or failure rate.

The following is a presentation of two sets of analyses. FIGURE 4.1 presents cumulative recidivism rates and FIGURE 4.2 the hazard functions for the entire population of probationers in our sample. An examination of FIGURE 4.1, the cumulative distribution of recidivism, shows that after three months there is a 13.6% likelihood of an offender recidivating (i.e., of being re-arraigned in court for a felony or misdemeanor); after one year there is a 36.4% likelihood

CUMULATIVE PROBABILITY OF RECIDIVISM AMONG ALL PROBATION OFFENDERS UNDER SUPERVISION

FIGURE 4.1



of recidivating; and after three years there is an overall 59.2% likelihood of recidivating. The recidivism rate (59.2%) is comparable to what other research have found (Petersillia, et at., 1985; Williams 1986; Beck 1987).

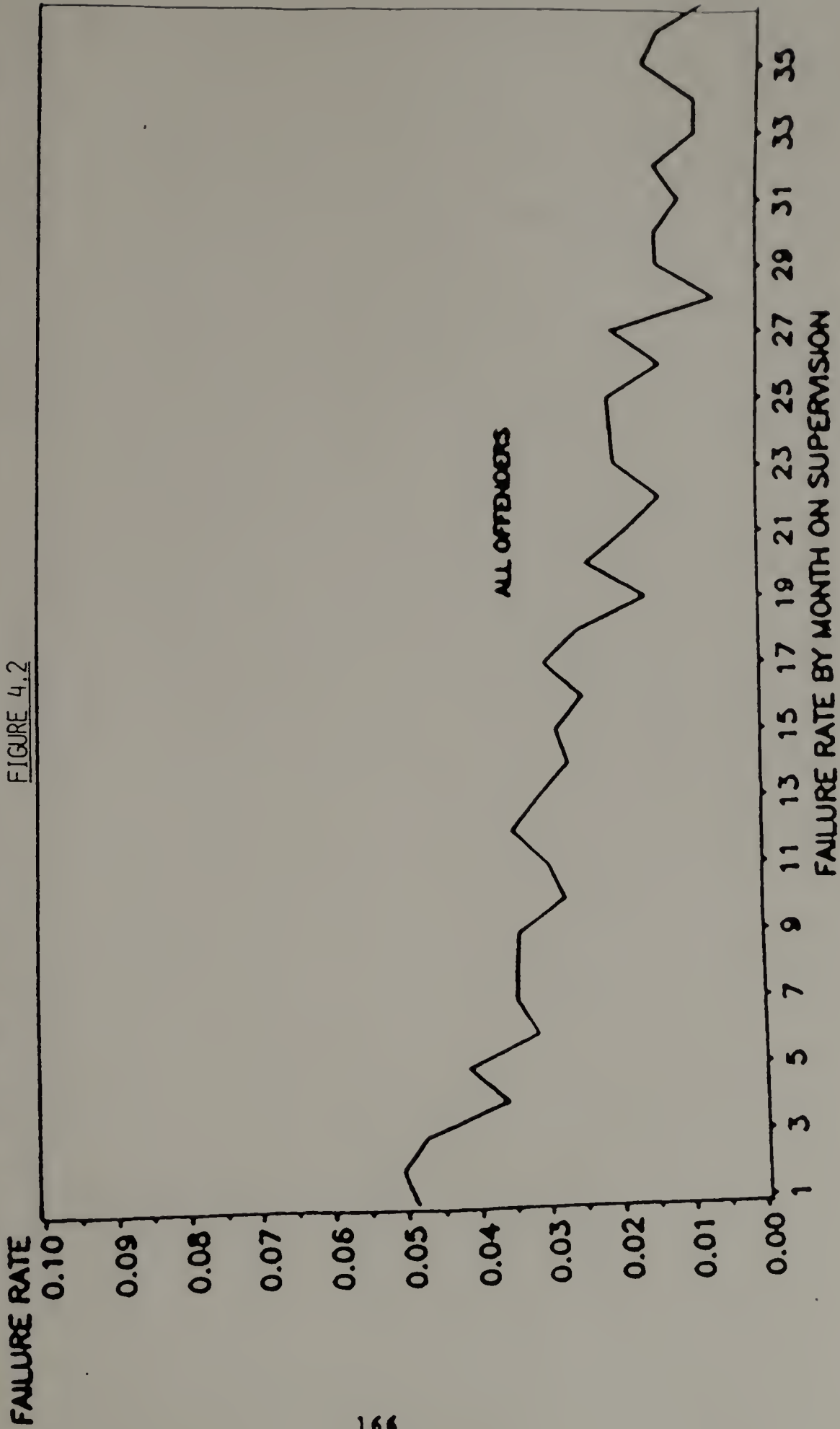
In addition to the cumulative likelihood of failure, the pattern of failure overtime among offenders on probation can be examined by analyzing the hazard rate function. As noted, the hazard rate measures the probability of recidivating in a given month among those offenders who have not yet recidivated up to that month.

Examining the hazard rate in FIGURE 4.2 shows that offenders appear most likely to recidivate during the first three months on probation. The next highest period of recidivism occurs during the next quarter-months four through six. After the first six months, the likelihood of recidivating in any given month shows a steady decline to about the 20th month. Thereafter the probability of recidivating appears to remain fairly constant. The above analysis suggests that probation resources should be concentrated most highly during the first six months of probation because this represents the time period when offenders have the greatest risk of recidivating.

The information presented in FIGURES 4.1 and 4.2 addresses the issue of recidivism among the entire probation offender population. A more relevant question for administrators is whether different offender subgroups show similar or

FAILURE RATE AMONG ALL PROBATION OFFENDERS UNDER SUPERVISION

FIGURE 4.2



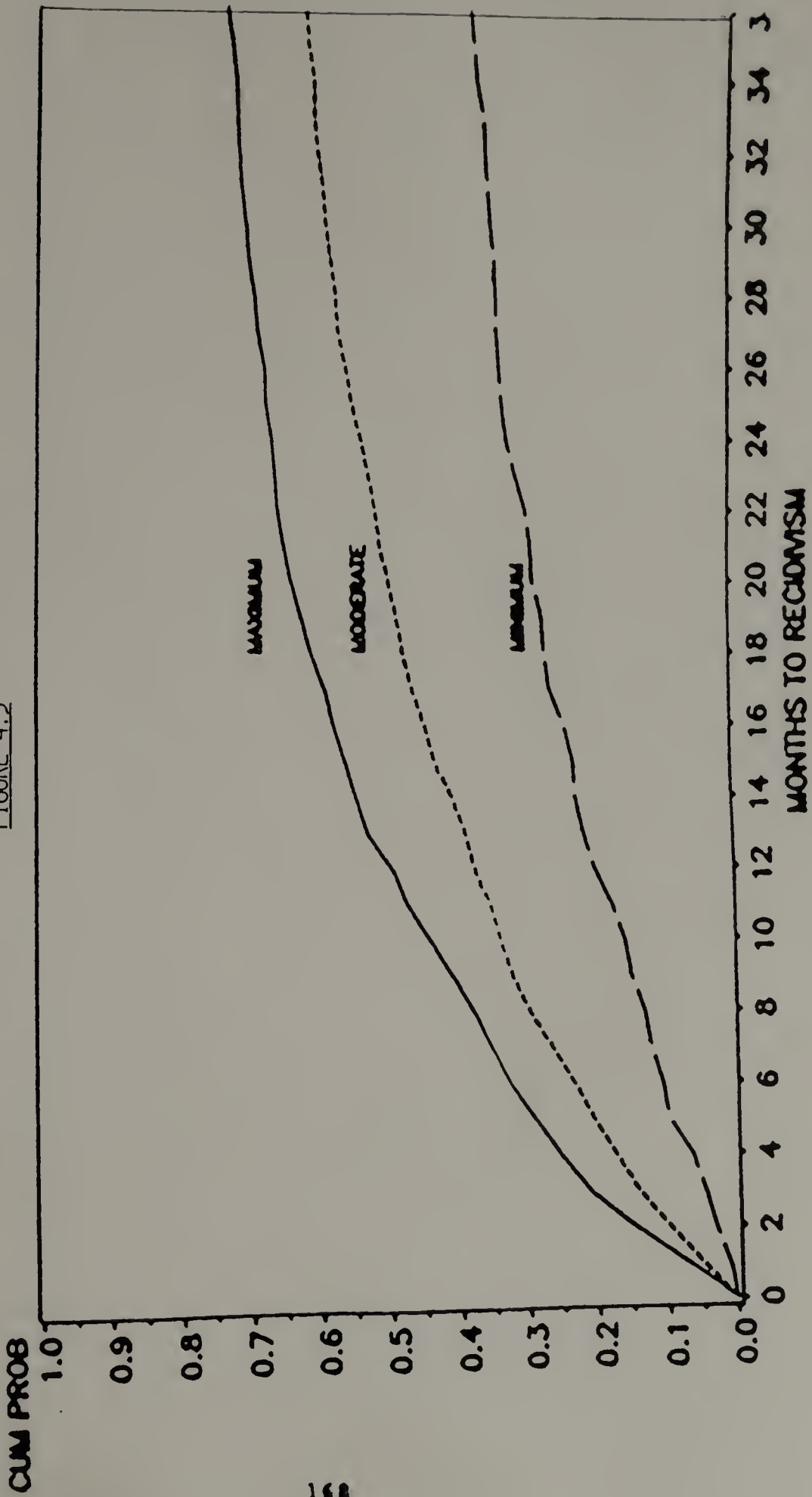
divergent patterns of recidivism. Importantly, the Risk/Need system was explicitly set up on the premise that different groups of offenders do not represent uniform risk to society (i.e., they have different likelihoods of committing future crimes) and hence, such offenders should be assigned to levels of probation supervision.

The underlying assumption of the Risk/Need system (i.e., that offenders assigned to different levels of supervision represent different risks to society is examined in FIGURES 4.3 and 4.4). Specifically, FIGURE 4.3 presents the cumulative recidivism function for probationers classified into one of the three Risk/Need levels of supervision. As was suggested in Graph 1, there is a very wide discrepancy in the likelihood of recidivism among offenders assigned to each of the three supervision categories. Among offenders assigned to Maximum Supervision (the highest risk group) there is a 73.3% likelihood of recidivating after 36 months; among those assigned to Moderate Supervision there is a 61.2% likelihood of recidivating after 3 years; and finally, among those assigned to Minimum Supervision, there is a 38.0% likelihood of recidivating.

Examination of the cumulative recidivism rates for periods of time less than one year reveals even greater discrepancies among these three offender subgroups. For example, the likelihood of recidivism after twelve months was 40.6% for Maximum Supervision level offenders, 32.0% of

CUMULATIVE PROBABILITY OF RECIDIVISM AMONG PROBATION OFFENDERS UNDER MAXIMUM, MODERATE, OR MINIMUM SUPERVISION

FIGURE 4.3

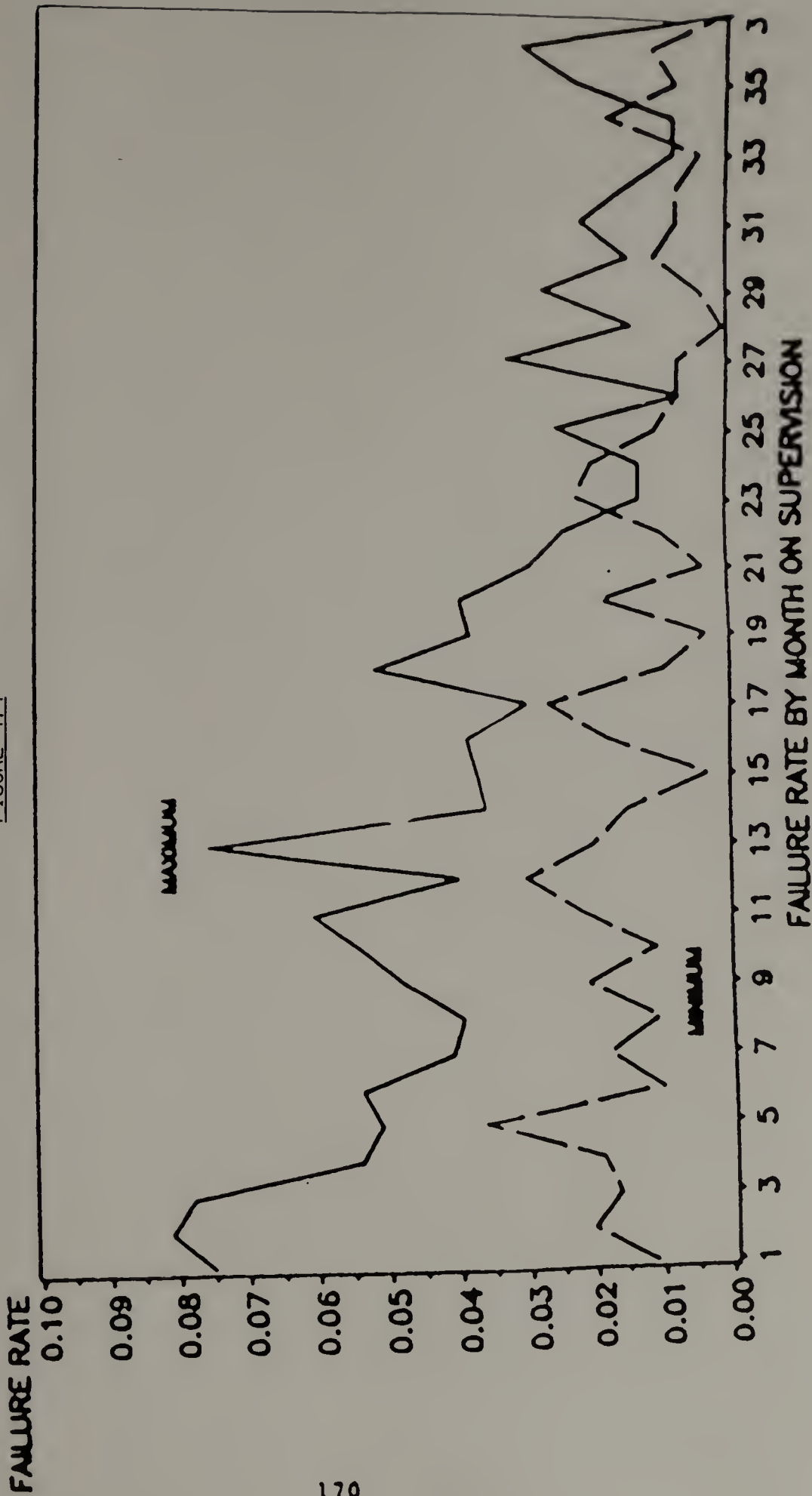


Moderate Supervision offenders, and only 14.9% for Minimum Supervision offenders. Thus, while the recidivism rate for Maximum offenders was approximately 2.7 times greater than Minimum offenders after one year, it was only 1.9 times greater after three years.

In both instances, of course, the level of recidivism is much greater for Maximum Supervision offenders. However, the above results suggest that the failure or the hazard rates of offenders under different types of supervision may also show very different patterns. Indeed, examination of the hazard rate (see FIGURE 4.4 which focuses on only Maximum and Minimum Supervision offenders) reveals this to be the case. Specifically, Maximum Supervision offenders reveal high rates of recidivism during the first three months under probation supervision. During the first, second and third month under probation, maximum cases recidivate at a rate of 7.5%, 8.1% and 7.8% respectively monthly. After the third month, however, examination of the hazard rate shows that the (conditional) monthly rate of recidivism for this group generally fluctuates between 4 and 6% per month until approximately the 14th month on probation. Thereafter until the approximately the 20th month on probation the hazard rate fluctuates between a rate of about 3% to 5%. After the 21st month the hazard rate for offenders under maximum supervision looks very much like the hazard rate for offenders under minimum supervision. This suggests that after twenty one

FAILURE RATE AMONG PROBATION OFFENDERS UNDER MAXIMUM OR MINIMUM SUPERVISION

FIGURE 4.4



months on maximum supervision those offenders who have not recidivated are no more likely to recidivate than comparable offenders under Minimum Supervision.

In contrast to Maximum Supervision offenders, those offenders assigned to Minimum Supervision show a very different pattern of hazard rates. Specifically, they show comparatively low monthly rates of recidivism for the entire thirty-six months covered by this study. This suggests that unlike offenders under Maximum Supervision, offenders under Minimum Supervision can receive relatively low levels of supervision from virtually the very beginning of their time on probation. Maximum offenders in contrast need relatively high levels of supervision early in their term of probation because they show very high probability of recidivating at the beginning of their supervision terms.

C. EXAMINATION OF PROBATION'S PRESENT MANAGEMENT INFORMATION CAPACITY: THE MONTHLY REPORT OF PROBATION ACTIVITIES (MRPA) SYSTEM

On a monthly basis Massachusetts Probation collects aggregate statistics from each Superior, District, Juvenile and Probate Court in Massachusetts. The monthly reports are completed by the probation office in each of the courts and are then sent to the Research and Statistical Bureau of the Office of the Commissioner of Probation. Upon receiving these forms each report is computerized. Each month becomes part of a longitudinal (i.e., monthly) database on each court in Massachusetts. For the most part, the MRPA system is designed to collect information on the characteristics and magnitude of court caseloads. The specific elements of information collected are dependant on the type of work being conducted within a given court. Thus, because Superior, District, Juvenile, Probate and Family Courts each serve different clientele within the Massachusetts court system, each type of court department provides somewhat different elements of information to the MRPA reporting system. (See TABLE 3.11-3.14 of Chapter III of this study).

The Superior Court reporting forms collects information on the caseflow of Risk/Need and administrative cases. Caseflow measured in terms of the number of: 1) new cases; 2) cases carried over from the previous month; or 3) cases terminated during the month. Risk/Need cases unlike administrative cases in Superior Court require direct

TABLE 4.47 Caseload As of December 31, 1986

COURT	RISK/ NEED	DUIL	NON SUPPORT	TOTAL
Adams	70	41	83	194
Amesbury	184	683	91	958
Attleboro	140	673	442	1255
Ayer	91	481	396	968
Barnstable	194	961	457	1612
Boston	284	282	716	1982
Brighton	547	0	258	605
Brookline	143	197	99	439
Cambridge	287	563	659	1519
Charlestown	33	552	55	640
Chelsea	468	242	240	950
Chicopee	87	328	97	512
Clinton	158	216	205	579
Dedham	293	806	341	1440
Dorchester	960	486	4200	5646
Dudley	270	864	732	1366
East Boston	266	115	203	584
Edgartown	74	97	48	219
Fall River	323	675	74	1072
Fitchburg	327	218	276	821
Framingham	190	745	811	1246
Gardner	258	7	375	640
Gloucester	227	172	177	576
Great Barrington	32	116	135	283
Greenfield	167	401	243	811
Haverhill	370	654	470	1494
Hingham	286	820	260	1366
Holyoke	79	254	596	929
Ipswich	97	10	80	187
Lawrence	688	1261	1460	3409
Leominster	77	293	453	180
Lowell	268	1106	1557	2931
Lynn	856	1047	1060	2963
Malden	278	439	601	1318
Marlborough	134	100	278	512
Milford	118	574	388	1080

Continued

TABLE 4.47 (Cont.)

COURT	RISK/ NEED	DUIL	NON SUPPORT	TOTAL
Nantucket	50	78	40	168
Natick	128	204	88	420
New Bedford	504	518	332	1354
Newburyport	82	546	59	687
Newton	220	346	237	803
North Adams	103	173	242	518
Northampton	183	1446	275	1904
Orange	71	241	108	420
Orleans	161	313	230	704
Palmer	151	217	237	605
Peabody	293	294	144	731
Pittsfield	247	424	196	867
Plymouth	124	548	319	991
Quincy	416	1270	530	2216
Roxbury	782	603	880	2265
Salem	381	752	491	1624
Somerville	417	894	562	1873
So Boston	362	257	210	829
Spencer	92	818	242	652
Springfield	875	1370	2259	4504
Stoughton	105	474	109	688
Taunton	172	428	427	1027
Uxbridge	83	334	252	669
Waltham	215	398	222	835
Ware	172	17	58	247
Wareham	159	539	242	940
Westborough	300	242	172	714
Westfield	218	254	261	733
W. Roxbury	873	485	540	1898
Winchendon	35	37	71	143
Woburn	270	951	469	1690
Worcester	545	1374	1023	2942
Wrentham	590	350	385	1325
STATEWIDE	19651	34106	30859	84616

probation officer supervision. Thus, the Superior Court MRPA form also collects information on the total number of cases in each Superior Court under maximum, moderate, minimum level of supervision. (Such information allows Probation Central Office to estimate the workload level of probation offices in each Superior Court.) In addition to collecting information on the level and magnitude of work in Superior Courts, the MRPA system also collect information on probation offenders who recidivate or commit a technical violation of the conditions of supervision while on probation. Finally, the Superior court MRPA form also collects information on monies collected by the court for victim restitution, fines, court costs, reduced counsel fees, victim witness fees, as well as other costs.

The District Court MRPA reporting form is quite similar to the Superior Court form. This is not surprising in that the District Court in Massachusetts basically deals with criminal cases like Superior Court only, generally speaking, they represent misdemeanor cases. The more serious felony cases are bound over to Superior Court. District Courts, however, do deal with a set of cases that Superior Court typically does not see as part of its caseload. Specifically, District Court MRPA forms collects data on offenders charged with driving under the influence of alcohol and also on child support cases. These latter two categories represent 70% of cases under probation officer supervision in District Court

(See TABLE 4.47). The Juvenile MRPA reporting form, like the District and Superior Court forms, collects information on Risk/Need caseflow and workload. In addition, this portion of the MRPA System also collects information on activities and functions that are unique to Juvenile Courts. Specifically, the Juvenile Court MRPA form collects information on the caseflow of Children in Need of Service (CHINS) cases, on the demographic and substantive character of new CHINS cases and on selected types of dispositions including the monthly number of: 1) commitments to the Department of Youth Services; 2) Jury of Six arraignments; 3) Transfer Hearing and; 4) Collections of monies for fines, restitution, and court costs.

Finally, for Family and Probate Courts the MRPA system collects information relating to the primary functions performed by this part of the Massachusetts judicial system. More specifically, for Probate/Family Courts the MRPA system collects information on: 1) the number of investigations conducted by probation officers (typically these investigations involve issues such as, parents visitation recommendations); 2) the number of meditations completed (typically such cases involve the establishment of child support orders, visitation problems, etc.); 3) the number of cases under support supervision; 4) the number of cases in contempts; and 5) the amount of monies collected for support monies paid to the Mass Department of Welfare, to individuals

TABLE 4.48

Commonwealth of Massachusetts
Office of the Commissioner of Probation
Management Information System
Probate and Family Court Department
Feedback Report For Dec 1986

Report # 74

Division: Norfolk
Court # 82

Run Date: NOV

Month	Invest Completed	Mediations Completed	Total Contempts	Total Support	New Support	Term Support	Total Collections	IV-D AFDC	IV-D Non-AFDC
Jan	26	256	43	3,683	38	11	747,277	84,353	661,804
Feb	19	266	28	3,705	40	18	661,834	75,284	586,550
Mar	6	270	26	3,733	47	19	752,475	77,306	674,534
Apr	18	304	18	3,744	39	28	745,453	66,974	677,239
May	15	259	31	3,772	36	8	720,362	86,625	632,477
Jun	20	324	32	3,789	38	21	813,408	124,143	688,435
Jul	16	350	45	3,828	66	27	839,366	114,686	722,715
Aug	18	230	34	3,860	65	33	703,946	90,740	612,266
Sep	6	373	39	3,903	96	53	829,319	86,614	739,200
Oct	20	261	25	3,950	59	12	793,782	75,899	715,418
Nov	14	236	26	3,985	70	35	734,968	71,372	662,511
Dec	12	255	17	3,507	61	20	853,887	72,406	776,716
12 Month Average	16	282	30	3,788	55	24	766,340	85,534	679,155

who are receiving services (other than AFDC) from the State, to individuals receiving no state support (See TABLE 4.48).

In summary, the MRPA System is designed to collect aggregate (i.e., monthly counts by court) statistical information on the magnitude and to a lesser extent the character of the workload of each Superior, District, Juvenile, and Family/Probate court in Massachusetts. Although the information collected varies according to the population the particular court serves, information for all courts is collected on: 1) new cases received; 2) the total workload; 3) the number of cases requiring supervision, and; 4) the number of cases terminated. In addition, some information is also collected on the disposition of cases. Data is also recorded on the amount of monies collected for fines, restitution, court costs, and child support.

The MRPA database basically provides two forms of feedback. First, monthly reports are generated from the computerizing database which provides longitudinal and comparative statistics on each court. Thus, TABLE 4.49 presents Risk/Need caseload statistics for District Courts. The table not only allows each court to examine how its caseload has changed over the past year, it also provides information on how the court compares with all other district courts. The MRPA System generates 75 specific reports each month giving a full picture of service demands placed upon the probation system.

TABLE 4.49

District/Boston Municipal: Risk/Need Supervision

Court Name	New		New		Term		Term		Total *		Total *	
	Jan-Dec 1984	Jan-Dec 1985	Jan-Dec 1986	Jan-Dec 1984	Jan-Dec 1985	Jan-Dec 1986	Jan-Dec 1984	Jan-Dec 1985	Dec 1984	Dec 1985	Dec 1986	Dec 1986
Adams	29	43	38	30	26	25	40	57	70			
Amesbury	89	67	60	57	58	55	171	180	184			
Attleboro	84	109	111	86	87	89	96	118	140			
Ayer	133	127	68	162	115	102	113	125	91			
Barnstable	239	177	131	489	174	162	222	225	194			
Boston	586	1,244	666	322	746	764	584	1,082	984			
Brighton	343	361	404	298	290	291	363	434	547			
Brockton	395	458	456	272	378	396	427	507	567			
Brookline	73	89	110	75	94	64	102	97	143			
Cambridge	160	181	260	109	134	243	223	270	287			
Charlestown	45	28	37	52	40	43	51	39	33			
Chelsea	313	259	233	267	228	175	379	410	468			
Chicopee	79	51	94	77	61	67	70	60	87			
Clinton	107	98	104	121	87	98	141	152	158			
Concord	441	138	80	430	328	139	374	184	125			
Dedham	254	190	125	191	209	196	383	364	293			
Dorchester	1,260	1,123	806	921	966	848	951	1,093	960			
Dudley	154	177	208	143	152	142	179	204	270			
East Boston	228	195	263	254	229	190	227	193	266			
Edgartown	61	70	38	69	57	41	64	77	74			
Fall River	163	140	183	196	127	75	202	215	323			
Fitchburg	290	265	342	257	306	266	292	251	327			
Framingham	173	173	170	165	143	174	207	237	190			
Gardner	259	227	201	229	209	188	227	245	258			
Gloucester	140	124	173	138	103	98	197	164	227			
Greenfield	104	86	132	146	112	113	174	148	167			
Gt Barrington	12	22	21	10	11	13	13	24	32			
Haverhill	159	150	124	132	97	93	286	339	370			
Hingham	282	207	230	230	240	216	305	272	286			
Holyoke	58	15	92	297	59	39	70	26	79			
Ipswich	95	60	66	58	74	82	106	113	97			
Lawrence	269	173	250	109	123	64	452	502	688			
Lee	15	40	39	18	15	25	17	42	56			
Leominster	91	60	95	92	86	75	83	57	77			
Lowell	95	134	94	61	55	63	158	237	268			
Lynn	506	549	503	357	402	452	691	805	856			
Malden	284	246	230	302	258	209	269	257	278			
Marlborough	165	130	140	155	184	171	216	165	134			
Milford	85	92	106	86	79	92	87	104	118			
Nantucket	2	13	8	2	17	24	3	0	50			
Natick	139	159	130	63	164	166	180	163	128			
New Bedford	351	274	374	464	308	301	465	431	504			
Newburyport	54	51	58	56	50	39	62	63	82			
Newton	107	144	153	74	78	128	129	195	220			
North Adams	76	48	37	96	55	50	123	116	103			

continued

TABLE 4.49 (cont.)

District/Boston Municipal: Risk/Need Supervision

Court Name	New		Term		New		Term		Total		Total	
	Jan-Dec 1984	Jan-Dec 1985	Jan-Dec 1984	Jan-Dec 1985	Jan-Dec 1984	Jan-Dec 1985	Jan-Dec 1984	Jan-Dec 1985	Dec 1984	Dec 1984	Dec 1985	Dec 1986
Northampton	91	159	112	105	125	80	134	195	134	195	183	
Orange	49	48	41	50	35	53	70	65	70	65	71	
Orleans	181	135	151	235	123	155	153	133	153	133	161	
Palmer	213	204	131	203	180	245	241	200	241	200	151	
Peabody	241	211	267	147	247	194	256	273	256	273	293	
Pittsfield	137	209	146	150	168	127	187	269	187	269	247	
Plymouth	163	159	110	203	135	190	180	149	180	149	124	
Quincy	474	405	429	536	398	514	494	385	494	385	416	
Roxbury	498	419	320	506	313	380	736	775	736	775	702	
Salem	394	347	331	490	383	369	454	432	454	432	381	
Somerville	314	281	223	334	274	208	395	468	395	468	417	
South Boston	205	197	226	159	121	139	199	257	199	257	362	
Spencer	124	113	139	120	122	129	91	75	91	75	92	
Springfield	912	733	581	956	633	807	1,001	927	1,001	927	875	
Stoughton	117	112	96	116	108	109	120	115	120	115	105	
Taunton	159	194	126	140	178	132	162	224	162	224	172	
Uxbridge	53	54	43	71	42	49	77	82	77	82	83	
Waltham	263	166	176	210	204	168	243	243	243	243	215	
Ware	181	160	213	130	185	191	167	144	167	144	172	
Wareham	146	128	154	99	127	141	145	132	145	132	159	
West Roxbury	300	203	226	181	153	241	338	300	338	300	373	
Westborough	323	423	324	246	403	317	273	379	273	379	300	
Westfield	128	142	96	37	61	81	133	203	133	203	218	
Winchendon	35	36	38	31	36	39	36	33	36	33	35	
Woburn	334	194	187	478	209	228	326	292	326	292	270	
Worcester	420	324	301	511	279	282	481	523	481	523	545	
Wrentham	165	423	318	166	225	208	282	497	282	497	590	
Year to date total:	15,667	14,954	13,748	14,852	12,833	13,590	17,550	18,812	17,550	18,812	19,651	
Annual total:	15,667	14,954	13,748	14,852	12,833	13,590	17,550	18,812	17,550	18,812	19,651	

Commonwealth of Massachusetts
Office of the Commissioner of Probation
Management Information System
District and Boston Municipal Court Departments - Adults
Feedback Report For Dec 1986

Report # 24

Run Date: NOV

TABLE 4.50

Division: Boston
Court # 1

Reported Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Risk/Need	1,090	1,072	1,099	1,083	1,108	1,097	1,086	1,053	1,051	1,027	1,017	984
New Risk/Need	86	51	97	72	83	38	39	39	49	41	38	33
Terminated Risk/Need	78	69	70	88	58	49	50	72	51	65	48	66
Total DUIL	180	189	193	203	212	208	214	227	237	258	273	282
New DUIL	13	11	13	14	11	2	13	16	13	21	16	9
Terminated DUIL	10	2	9	4	2	6	7	3	3	0	1	0
Total Support	633	641	653	656	667	672	673	676	680	690	707	716
New Support	8	9	13	4	12	8	0	3	4	15	20	9
Terminated Support	1	1	1	1	1	3	0	0	0	5	3	0
Total DUIL and support	813	830	846	859	879	880	887	903	917	948	980	998
New DUIL and support	21	20	26	18	23	10	13	19	17	36	36	18
Term DUIL and support	11	3	10	5	3	9	7	3	3	5	4	0
Probationers Surrendered (1)												
Criminal	40	71	75	68	53	58	61	42	49	44	52	57
Technical	28	31	39	32	28	26	32	23	24	21	22	19
Total	68	102	114	100	81	84	93	65	73	65	74	76
Arraignment: Total (2)	821	882	921	878	798	808	1,102	867	1,053	810	721	918
Arraignment: DUIL (2)	27	30	37	28	22	19	30	25	30	24	29	28
Support to Welfare	4,888	4,080	4,080	5,330	4,775	4,835	5,010	5,864	4,785	6,207	4,896	5,641
Title IVD	22,586	22,729	28,825	27,416	24,525	28,794	28,876	30,170	24,704	27,617	24,217	31,963
Total Collections	48,058	42,418	52,229	53,500	56,009	67,644	49,576	51,866	57,443	56,653	68,153	56,061

Secondly, these reports provide the central office over time with estimates of changes in the demand for probation services within an individual court (See TABLE 4.50).

Finally the MRPA reporting system also provides aggregate system wide estimates of the current, as well as, historical demands for probation services (See TABLE 4.49). Such system wide statistics are valuable sources of information for state legislators, court administrators, other state agencies, as well as, Probation Central Office Administrators.

D. SUMMARY

Chapter Four presents two separate analyses of the current information management and analysis systems of the Massachusetts Probation System. The first analysis examines the historical context surrounding the introduction and implementation of the two primary information management systems currently used by Massachusetts Probation today--the Risk/Need System and the Monthly Report of Probation Activities (MRPA) System. The second analysis presents a quantitative examination of these two information management systems.

The historical review examined both the legislative and organizational contexts surrounding the development of Massachusetts Probation current information management systems. This section also examined the organizational

TABLE 4.51 1985-86 Comparison

	<u>1985</u>	<u>1986</u>
ARRAIGNMENTS:		
Superior	5,357	6,182
District/BMC	231,115	232,740
Juvenile	19,804	19,793
Total Arraignments:	257,276	258,715

JOS ARRAIGNMENTS:		
District/BMC	19,351	21,463
Juvenile	508	462
Total JOS Arraignments:	19,859	21,925

DUIL ARRAIGNMENTS:		
	36,742	38,049
	1985	1986
	DECEMBER	DECEMBER

RISK/NEED		
Superior	5,173	5,501
District	18,812	19,651
Juvenile	4,104	3,815
Total Risk/Need:	23,089	29,967

ADMINISTRATIVE:		
Superior.....	454	325
*District/BMC.....	61,699	64,965
Non Support	29,093	30,859
DUIL	32,601	34,106
*Non Support - DUIL = Approximately 20% of Total Administrative Cases		
Reported Total:	62,133	65,490
Estimated 100% Total	77,691	81,863

TOTAL R/N ADM. CASES:	105,780	110,030

continued

TABLE 4.51 (cont.)

	<u>1985</u>	<u>1986</u>
SURRENDER HEARINGS:		
Superior	2,437	2,548
District/BMC	19,141	22,485
Juvenile	1,931	2,119
Total Surrender Hearings:	23,509	27,152

RESTITUTION:		
Superior	1,372,789	1,372,633
District/BMC	6,557,684	67,992,895
Juvenile	400,752	457,981
Total Restitution:	8,831,225	9,373,758

SUPPORT COLLECTIONS:		
Superior	86,761	99,167
Probate	58,156,723	67,992,395
District/BMC	32,984,756	36,391,249
Total Support Collections	91,173,240	104,483,311

FINES & SURFINES		
Superior	258,220	868,990
District/BMC	6,082,538	6,601,577
Juvenile	27,467	45,290
Total Fines & Surfines:	7,268,225	7,515,857

COURT COSTS:		
Superior	66,333	58,572
District/BMC	2,355,043	2,492,516
Juvenile	38,298	97,566
Total Court Costs:	2,509,644	2,648,654

VICTIM/WITNESS FUND:		
Superior	17,536	23,792
Disdistrict/BMC	1,309,243	1,370,793
Juvenile	47,940	47,345
Total Victim/Witness Fund:	1,374,719	1,441,920

development strategies used to facilitate the introduction of these systems.

The legislative review focused on the 1978 Court Reorganization Act which provided the authority to move toward a more centralized organizational structure within Probation and also mandated the requirement for Probation to collect information on Probation activities and caseloads. The review of the organizational context focused on the political and administrative issues that confronted the development of information management within Probation. Specifically this section examined employee concerns and fears relating to the introduction of the Risk/Need and the MRPA systems. It was found that most often employees were concerned about a loss of control over information collected within their own units and they were also concerned about a loss of power within the overall organizational structure. In addition, some employees had a generalized anxiety about computers.

The final section of the historical review examined the specific organizational development strategies, used by administrators in the Central Probation Office to facilitate the introduction of the Risk/Need and MRPA systems into the ongoing operations of the department. For the most part, the review suggests that these strategies were quite successful in facilitating the introduction of the departments current systems and they may also have laid the groundwork for future developments in this area.

The quantitative review also examined both the Risk/Need and the MRPA systems. The analysis of the Risk/Need System reveals that information from this system can be used by both probation officers in the field and by central administration. The Risk/Need System provides a useful mechanism for probation officers to assess both the social, and economic needs of an offender and also estimate the potential risk a particular offender represents to society. The development of the Risk/Need System was based on previous research and experience in the probation field and the quantitative examination of this system reveals that current systems can both assess offender need and also estimate offender risk.

The analysis of Risk/Need System data also showed that when the data from this system is supplemented with information from criminal history files refined analyses of offender recidivism can be conducted which is potentially quite useful to administrators. Specifically, the analysis of survival and hazard rates found that different types of offenders (i.e., maximum and minimum risk offenders) showed very different patterns of recidivism. These findings may suggest changes in both the quantity and timing of probation supervision delivered to various offender subgroups.

Finally, the quantitative analysis also reviewed the MRPA reporting system. The MRPA system basically provides two forms of information on the demand for probation services.

MRPA provides information over time on the characteristics of probation workload for specific courts and it provides cross sectional comparisons of probation workloads across courts at specific points in time as well as over time. This type of information can be used by administrators to both monitor the demand for probation services and also forecast the demand for future services.

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EVALUATION OF THE CURRENT INFORMATION MANAGEMENT AND
ANALYSIS CAPACITY

During the 1970's and continuing up to the present date, the Massachusetts Probation System has initiated and carried out significant organizational development efforts. Information management has been one of the centerpieces of these probation initiatives.

Prior to the introduction of the Risk/Need and MRPA Systems the probation system lacked the capacity to develop consistent probation offender need profiles or evaluate offender risk levels. The system lacked methods for case planning, measures for resource allocation, basic data about money collections by probation, and the system could not identify the number of new and terminated cases. Given these limitations Massachusetts Probation was a system that could not address the most fundamental issues of fairness and equity for either employees or offenders. In addition, Probation also could not carry out such basic management functions as planning, monitoring, and evaluating the systems performance.

As the historical examination in Chapter Four indicates, by 1980 two information management systems, The Risk/Need and the MRPA Systems, had been introduced to address some of the existing management analysis and planning deficiencies in Massachusetts Probation. It has been seven years since most of the current information systems have been

in place. The current chapter presents an evaluation of these two existing Massachusetts Probation information systems. The chapter is divided into four sections. The first section presents an evaluation of the information provided by the two existing information systems. The systems will be evaluated in terms of content of the information provided, the quality of that information, and finally, the accessibility of the information to probation officers and administrators. In terms of informational content, the existing Risk/Need and MRPA systems will be evaluated in terms of the character of information they provide, as well as, what information is not provided. Indeed much of the failure in this area lies in what information is still not collected and is thus unavailable to probation officers and decision makers. In terms of quality, the content of information provided by existing information systems will be evaluated on the premise that unreliable and/or invalid information is of little value to decision makers. Finally, the information contained in the Risk/Need and MRPA systems will also be evaluated in terms of its accessibility to probation officers and decision makers. Typically, only information which is available to administrators and direct service personnel on a timely basis with minimal effort to acquire the information will be useful in making and guiding decisions.

Using the results of the evaluation on the content, quality and accessibility of information systems in

Massachusetts Probation the second section of the chapter examines the managerial implication of these findings. In particular, this section examines the effects of the content, quality, and accessibility of information on six management support functions. The third section deals with the organizational readiness for additional information technology change. The final section is a summary.

A. Strengths and Limitations of Current Information Systems

For a more specific evaluation and analysis of the current information management and analysis capacity of the Massachusetts Probation System, this section of the study will focus on the present system in regards to content, quality, and the accessibility of the information.

The changes in the Massachusetts Probation System during the past decade have shown that a good information system is essential to contemporary probation management. Content of the information system regarding cases, staff actions, and probation outcomes must be collected and properly analyzed if probation is to evaluate its policies, programs, and procedures.

1. Information Content

In establishing a management information system for probation in the late 1970's there was a need to emphasize data elements that would both identify and characterize the demands being placed on the probation system. In developing

an information system, the content of the system is the most basic consideration. Massachusetts probation needed an information system that generated documents, listings, and reports that would be useful both at the level of the individual probation officer and at the aggregate level for management.

The content of the present information systems were developed through a combination of an extensive review of the existing literature and research, as well as, an extensive review of knowledge and experience about the organizational history of the Massachusetts Probation System.

Prior to the introduction of the Risk/Need System, the probation system collected information about and supervised offenders mostly based on probation officers subjective judgements about offenders. As a result of these data collection and supervision practices, managers of the probation system were in a position of not knowing much about the operation of probation in Massachusetts. Essentially, in the past, classification by a probation officer was idiosyncratic to the individual officer. Administrators could not obtain any quantitative or qualitative information on the characteristics of offenders on probation, and there was no information on how caseloads varied across the Commonwealth.

The first information system put in place was Risk/Need. By the late 1970's, both institutional experience and extensive criminological literature and research had

demonstrated that classification was ubiquitous in criminal justice decision making. Classification was considered to be central to setting general policies and making decisions about individuals.

The Massachusetts Probation Risk/Need Classification System is a method of arranging characteristics about offenders into groups that lead to the differential supervision of offenders. Probation managers use information from the Risk/Need System to evaluate general policies.

The individual categories on both the Need and Risk Scales also make up the content of the information system used by probation officers for offender supervision and for managers to make operational decisions.

The Needs/Strength Scale identifies characteristics about offenders related to strengths or deficiencies identified with whether or not a person lives a law-abiding life. The specific needs identified in this classification system are: education, employment, marital/family status, social, alcohol, other drug usage, counseling, financial management, motivation and ability.

This classification system also estimates the offenders' likelihood of recidivating by use of a risk scale. The risk categories are: prior adult or juvenile record during the past five years, the number of prior periods of probation supervision during the past five years, age at first

offense, number of residence changes during past year, time employed or in school during past 12 months, offenders family structure, alcohol or other drug problems, offenders attitude.

The formalization of the risk and need scales have established consistent guidelines for probation officers to deal with at the individual offender level. The Risk/Need System also gives management valuable and consistent information regarding the demands on the probation system. These measures of demand allow the probation administrators to look at a limited amount of aggregate level data about type of offenses, type of offender characteristics of recidivism, etc.

The content of the MRPA System goes even further in allowing probation administrators to look at more extensive aggregate data elements about the larger operational characteristics of probation in Massachusetts.

The major content of the MRPA System provides aggregate demand information from all four court departments (Superior, District, Juvenile, Probate).

The aggregate categories of information generated by MRPA are: total number of bench trial arraignments, jury of six arraignments, drunk driving cases, risk/need caseload, administrative supervision caseload. In addition to the above content, the MRPA System also identifies the total money collected by probation, the number of probate support cases, juvenile care and protection cases, plus children in need of service cases.

Despite the progress made in building the information system in probation, there is a substantial amount of content that is missing from the current information systems. The present systems are not on-line and are limited mostly to data about demands on the probation system.

Because the content of the present system lacks an on-line data base, the following major probation activities are not available in a timely manner to the line or management personnel in probation. The system lacks pre-sentence investigations and recommendations, court review of cases and sentencing decisions, offender assessment, and case plans. The system does not allow for a review of the actual amount of financial orders for child support, restitution, fines, victim witness assessments in a timely manner on individual cases. The content of the present information system does not allow for measurements of success or failure on individual cases. The content of the present system does not allow for matching individual case outcomes with availability or lack of availability of resource to meet offender needs. The type of contacts between the probation officer and the offender cannot be measured against case outcomes. The present systems content does not allow for using the computer to notify probation officers and/or offenders about appointments. Change in case status from one review period to another is not available. The content of the present systems totally lacks important supply side data about resources available either locally,

regionally or statewide to meet offender needs. Another important content element that is missing from the present system is the inability of administrators to track length and terms of probation supervision.

2. Information Quality

The context into which the management information systems were introduced in Massachusetts probation in the late 1970's has been well documented in this current study. When the MRPA System was introduced the first temptation was to try and solve all information problems in the organization at one time by making a quantum leap from paper to on-line feedback on demand.

Because information is the basis of many decisions made by management, the quality versus quantity of information has to be evaluated carefully. In Massachusetts Probation, it became apparent early-on in the use of management information that an improved management decision-making process does not hinge on having more information, but rather quality information. Making the right decision at the right time requires information that is timely, complete, accurate, and relevant.

Because the information generated from the MRPA System is limited to a batch processing system, the concerns and problems regarding data quality are substantial.

After the content of the MRPA System was determined, the first major quality issue to be addressed was how to get

the individual data elements to the person who must collect the aggregate statistics in each probation office. Much of the data was collected on forms existing in local courts. Experience has shown that the problems of collecting this data in a quality format for the entire system is very difficult. For instance, the most difficult data to collect in an accurate format was the arraignment data in each of the local courts. This data had been collected locally for years and had met local office needs, therefore, people were reluctant to change to new systemwide requirements.

A major learning experience for the information systems developers was that quality, like beauty, is in the eyes of the beholder. One person's junk is another person's treasure. What the central administrative office saw as junk, the local level management saw as a treasure, and vice versa. Quality assurance issues multiplied because many local offices maintained dual systems, one for local office needs and one for central office needs.

Combined central and local office committees finally did arrive at acceptable definitions that would allow for the system to be monitored for quality assurance. Because the central office had the greatest need for, and investment in, this aggregate information system, the monitoring function fell to the regional administrators. Monitoring of the system has proven to be very labor intensive and expensive despite the heavy investment in the monitoring of the system. The

reliability of some of the data received from some probation offices remains questionable.

In those cases where the information is unreliable and untimely, it is usually because the burden to supply data falls on individual probation officers who, typically, must manually complete a statistical summary of caseload activity each month. These summaries are then aggregated by hand for each probation office, region, and for the department as a whole, involving considerable expense of staff time. Since this aggregate information is of little use to the probation officers, they sometimes do an unsatisfactory job in compiling their summaries.

The Risk/Need system has proven to be an effective method of deploying probation officer resources. The categories do not capture the full universe of the offenders life, but it has proven to be reliable. Further systematic evaluation will lead to further refinements and improvements in the system. The major problem still remaining for the Risk/Need System is that the aggregate collection and study of this data is still based on a manual system that is subject to considerable slippage. Management has limited capacity to cross check most of the data on the needs scale. The questionable quality of some of the needs scale data limits efforts toward organizational innovation and change based on the needs scale.

The present information systems have quality assurance problems because the systems are not user friendly to line probation officers. The system does not produce special

reports available to either line probation officers or local office managers. There is a need for better training of chief probation officers in how to use the information locally to manage their offices. Quality of information will improve when duplicate data elements are eliminated. For instance, collection of offenders name, date of birth, employment status, income, prior record should be collected only once. Presently this data can be collected up to seven times per court appearance. Input documents such as Risk/Need forms have to be available to quality control workers at the central administration office. The quality of the present system will further improve if and when the following information is available to probation officers: case management information to plan and monitor their caseloads. Also, the system will improve when information is available in a timely manner to probation officers, and managers about service delivery performance against case outcome objectives.

In summary, although the quality of the present individual offender based and aggregate system based information is a substantial improvement over the non-systems of the 1970's, nevertheless, the present systems are in need of substantial improvement in the area of quality assurance.

3. Information Accessibility

Accessibility of the information is an essential element in an effective and efficient information system. Failure to produce timely, accurate and accessible data will

destroy the burgeoning information system. The present probation information system was developed and instituted before the microprocessing revolution. As previously mentioned, when the information system was developed, the only option available to the systems developers was to have a batch mainframe information system. The fact that probation can now batch produce systemwide information is a substantial accomplishment, but in evaluating and analyzing the system by today's standards, batch accessibility is the only positive element that can be identified in the area of accessibility. In general, by today's standards of information and technology management, the present information system is seriously flawed in the area of accessibility.

Although today's manager in probation has access to an information system, one of the major failings of the present system is the length of time between the initial recording of the information and its compilation into a management report. The present MRPA system compiles monthly information reports that are produced up to sixty days after the initial recording of the information.

Late reports that produce out-of-date information are of limited value to the line probation officer. Since line staff receive very few direct day-to-day benefits from the present information system, they have little incentive to involve themselves in what they see as a laborious task of recording the necessary information and submitting it on time.

Improved access to the information system, compiled in a more user friendly manner, is an essential change needed in the present information system. Both the Risk/Need and MRPA systems have to be converted to on-line systems in order to maintain the organizational change and innovation that has marked the past decade in probation in Massachusetts.

The present system does not allow line officers and managers access to basic information. Recidivism by individual offenders, general case profile information, changes in the case status, due dates for normal case reviews are not accessible in the present system. The present system does not give access to basic information about probation office caseloads, such as, number of open cases being supervised, the amount of money ordered to be paid versus amount of money collected for fines, restitution, child support payments, and victim witness assessments. If the information systems were on-line, probation personnel would be able to know when a person under probation supervision was arraigned in another court. An on-line system would allow probation access to the out of state arrest data base when preparing a pre-sentence report.

On-line access has become more important during the past decade. With the combination of the increased use of probation as a sanction and the problem of prison overcrowding there has been a significant change in the type of offender on probation in Massachusetts. An on-line system would allow

local office analyses of changes and trends in the type of cases being supervised. This ability to analyze changes locally would allow for quicker development of resources to meet offender needs. If the Risk/Need data was on-line it would increase the potential of local managers to be proactive rather than re-active in their planning function.

If the Risk/Need data was on-line the central office management capacity would be more efficient and effective in allocating organizational resources to the locations at which they were needed.

The MRPA system suffers the same fate as the Risk/Need System due to the fact that MRPA is of limited use to the local office in its present mode of limited access. Many local managers still do not make use of the MRPA system in the management of their offices. Also at a local office level, the lack of on-line capacity leads many clerical support staff to feel that the system has made their job harder. They put a lot of data into the system and are presently not able to retrieve information.

In the larger sphere of evaluating accessibility of the present individual and aggregate level data, management is faced with a serious information system flaw of being unable to link various data elements together in a timely manner. For instance, the simple ability to compare averages and trends on the number of arraignments versus the number of cases under Risk/Need Supervision would give a good indication as to

whether or not to few or to many cases were being assigned to probation supervision.

In general, the lack of on-line accessibility to the information systems and the lack of data linkages handicap the organization's ability to analyze policies and make appropriate changes in a timely manner. On a more specific level, because of lack of on-line access, local managers are unable to use the system's to monitor their offices' compliance with the organization's policies.

B. Implications For Six Management Support Functions

The following evaluation and analysis of the information systems will focus on the six management support functions in relation to information content, quality, and accessibility.

Operational information: The information in this area is on data relating to the magnitude and character of demand for service put on the probation system.

Logistical support: The focus in this area is on data relating to the support of staff activities (i.e., job design, workload distribution, reduction of paperwork, etc.).

Management control information: This area will deal with information to improve the correspondence between practice and policy.

Problem analysis: The emphasis in this area is on identifying and exploring policies and procedures needing review.

Strategic planning: This area deals with expected changes in the organizational environment.

General research: The emphasis in this area is on producing empirically based knowledge, about crime and criminal justice system in general and probation in particular.

A generalized evaluation of the six areas mentioned above shows that in the area of operational information, the present system is a substantial improvement over the non-existent information system of the 1970's. Nevertheless, the present system is still substantially flawed by today's standards for information and technology management.

1. Operational Information

In the area of operational information, the content of the present MRPA system allows the present day probation personnel in Massachusetts to identify in an accurate manner the following demands placed on the system: the number of persons arraigned, the number of Risk/Need cases added, terminated and ongoing for supervision. The number of drunk drivers arraigned and supervised. The system identifies the number of child support enforcement cases. Also, the number of child in Need of Services, Care and Protection, and Delinquency cases in Juvenile Court. Probation can identify the amount of money collected and needing to be processed by probation offices.

In the area of operational information the major contribution of the Risk/Need System is the fact this individual offender based information system can be used by

management to know the operational demands that are being made on the probation system. For example, it is now possible to know the aggregate unemployment rate, drug abuse rate, offender financial management problems, school attendance problems, and offender need for counseling services. All of offender risk and need categories can be broken out by individual court, regionally, or statewide. These risk and need factors place operational demands on the probation system to either network with existing systems or help in creating new systems to meet offender needs.

Even though the present information systems have brought substantial improvement to the overall operational information area, the fact is that because the information systems are not on-line, some important basic information is not accessible to either line staff or management in a timely manner.

Basic information such as whether or not there are enough alcohol and drug treatment facilities either locally, regionally or statewide to meet probation offender demand for these services is not available through the present system. The same problems exist for analyzing the availability of resources for school problems, counseling services, housing, employment training and job placement.

The lack of on-line availability of information sometimes affects the quality of the data. Because the present batch system does not allow for the analysis of resource needs to meet the demands in a timely manner, the line probation

staff and local office management can become careless concerning the quality of the information they report to the central probation office.

2. Logistical Support Information

In the area of logistical support the content of the information systems have allowed for the establishment of a workload distribution formula in probation. But this is the only substantial gain in this area.

The Risk/Need System does allow the local office to more equitably distribute the offender supervision workload. For instance, different weights of time can be given to a maximum, moderate or minimum risk case, thus allowing for appropriate probation officer time to be given to the control or casework needs of the individual offender.

The combination of the Risk/Need and MRPA Systems have proven to be a major force in bringing about an improved level of personnel resource allocation on the part of the management of the probation system. For instance, management has recently enacted an administrative policy of not filling vacant positions in offices determined to be overstaffed. In addition, the most recent collective bargaining contract allows for these vacant positions and presently filled positions to be transferred at management's discretion to offices determined to be in need of additional staff.

This logistical support data requires constant monitoring to ensure the quality and reliability of the data.

Because of the fact that the salary of the Chief Probation Officer, and in some cases the Assistant Chief Probation Officer, is based on the number of probation officers at the local court level, there is a constant temptation to inflate certain data in the MRPA and Risk/Need systems. The quality and reliability of the data has to be monitored by central office staff. On-line accessibility to such information as the number of arraignments versus the number of new Risk/Need cases would go a long way in avoiding this problem. Also, if the on-line accessibility of data actually led to a timely increase in local office resources there would be more incentive to report more quality data. On a practical level the problem of inflated categories of information could also be overcome if the Chief Probation Officers were all paid at the same salary level.

The money collection sections in the MRPA allow local Chief Probation Officers to be sure that this unpopular function of money collection by probation officers is being done. Individual office, regional and statewide trends regarding money collections over the past five years allow the CPO to have a general idea of what is happening on a monthly basis. The quality of this data tends to be quite high. Because of the large amount of money handled by local probation offices, almost \$130 million for calendar year 1986, local management tends to be very scrupulous in checking on and accurately reporting data about money collections. An on-line accounting system would make the money collection and

disbursement more efficient. With the ability to match money amounts to the individual cases the probation service would get better public support because child support payments and restitution collections could be dispersed in a far more effective and efficient manner.

The aggregate trend reports are helpful to central office management in looking for emerging changes in the organizations workload. Examples in this area are the declining juvenile arraignments over the past decade and the concurrent rise in drunk driving arraignments in adult cases at the District Court level. On-line accessibility of this and other type of data could further improve management decisions in the area of logistical support.

Because of the lack of on-line accessibility to the information systems, the systems have not led to any serious changes in job design for probation field personnel. For example, computer literacy plays no role in the hiring practices of the probation system. Except for a few positions in the central administrative office, computer knowledge or skills are not considered in hiring probation personnel. The lack of local office use of computer information has forced the central office into the role of systems monitors. This is a very labor intensive and redundant task. It is a task that leads to ineffective use of senior management personnel in today's probation system. Crucial roles such as problem solving, coaching, and general technical assistance is not routinely given to local offices because of time constraints.

Given the limited utility to the local office of the present MRPA system, many local managers have not used the information in the management of their local offices. The lack of timely on-line accessibility to the Risk/Need and MRPA data is where a major breakdown in systems utility has occurred.

This lack of on-line capacity leads clerical support staff to feel that the systems have made their job harder. They put a lot of data into the system and are able to retrieve a limited amount of information. Probation Officers, also complain about the paperwork involved in Risk/Need cases.

The fact is, that in many cases, because of the lack of timely access to the data, many local offices maintain cumbersome dual information systems. Thus, lack of timely access to the information has increased, rather than reduce, paperwork for some local offices.

In general, the logistical support area of information still has a long way to go before the full potential of information technology will be realized in the Massachusetts Probation System.

3. Management Control Information

There has been some gain in the control of management information due to the content of the information for the organization. Information content has brought about an improvement and consistency between policy and practice at the local office level, but again, these gains are rather limited. The present probation system is more consistent in policy and practice, but the probation system is also becoming more

complex to operate with increasing demands being put on the system in the areas of rehabilitation, surveillance, law, and administrative practices. Because this system is not on-line, the increasing complexity and rate of change can get out of control again before the managers of the present system are even aware of some of the problems. Current information technology available in our society makes it possible for organizations to stay on top of changes in their external and internal environments. Unfortunately, this technology is still not available in adequate quantity and quality in probation.

In general, because of the fact that both Risk/Need and MRPA systems have been limited to a batch system that only really produces demand side data, the present system has been of limited management control use to the organization at the local probation office level. For instance, because there is not an on-line resource directory regarding alcohol, drug, employment, counseling, or housing programs, the probation officer is still required to spend an inordinate amount of time (if he or she has anytime) developing resources on a case by case basis. In general, these lack of on-line systems do not allow the probation policy makers to evaluate whether or not some of the attempts at central management control have become a reality or remain an illusion.

4. Problem Analysis Information

There have been a few gains in the area of problem analysis. Having moved from a system that historically was unable to identify policies and procedure that needed evaluation and change, the current batch system could not help

but improve the problem analysis area. But the problem of lack of on-line systems and integrated micro-computer systems still generally put the probation system behind in identifying and analyzing problems in probation. This lack of timely access creates quality and reliability issues in the area of problem analysis. This lack of on-line access leaves probation management in a posture of reacting to crisis, instead of having access to quality data which can put probation managers in the role of proactive problem solvers.

The lack of on-line access to both Risk/ Need and MRPA data creates a number of serious limitations relating to the information system's utility to local office management. The present system does not allow for simple tracking systems, such as, a list of the individuals under Risk/Need supervision at a local probation office location. Review dates, schedules for conferring cases, and the ability to identify changing trends in caseloads would all improve local management through an effective and efficient use of more accessible information.

The present manual monitoring of the batch information system creates problem analysis shortcomings. As previously mentioned this manual monitoring of systems is very labor intensive and requires extensive and inefficient use of the central offices resources of people, money, and time. The major portion of the time of the eight regional administrators is taken up with the labor intensive task of monitoring the accuracy of the content of the present Risk/Need and MRPA Systems.

Therefore, the regional administrators are not available to use their substantial skills in problem analysis and technical assistance to recommend changes in local office and systemwide policies and procedures.

With the lack of on-line information systems there continues to be uncertainty about changes that will constitute effective initiatives for probation. In general, problem analysis remains a difficult area for probation because the lack of timely evaluation information still leaves probation vulnerable to serious unintended or undesirable consequences from some of the new policy initiatives.

5. Strategic Planning Information

Strategic planning is another method in the continuum of problem solving and decision making within the probation system. In an organization that has undergone recent policy and structural changes, as has the Massachusetts Probation System, planning for future movements is crucial. Strategic planning in the public sector is difficult in the best of circumstances. In a turbulent area, such as present day probation, it is very tenuous.

Because strategic plans are predictive in nature, depending largely on factors external to the organization, and are loosely structured, the content, quality, and accessibility of the information systems are crucial to this type of planning.

The present practices in probation require close

working relationships between probation and the following state and local agencies: Department of Revenue, Welfare, Registry of Motor Vehicles, Office for Public Counsel, District Attorneys, Attorney General, State and Local Police, Department of Corrections, Sheriffs, Parole, and Office for Children, and Division of Youth Services.

The linkage between probation and clerk of courts is essential because when a person appears before the court the official charges are issued through the clerk's office. Presently, there are seven duplicate areas of information which have to be exchanged between probation and the clerk of courts. On-line computer capacity will avoid duplication of content, improve quality and accessibility of information in the following areas: court dispositions, issuing of warrants, collection of monies, scheduling of trials, pre-trial conferences, docketing of case reviews and termination of individual cases.

The interaction between probation and the Department of Revenue is substantial. Both agencies presently have dual responsibility for over 65,000 child support cases involving the collection and dispersement of over \$175 million dollars. In addition to child support orders, a linkage between the Department of Revenue and Probation would be beneficial in determining an offender's income status regarding eligibility for court appointed counsel.

Linkage between probation and the Department of Welfare would be helpful in two areas: (1) in the appointment of

public counsel, a person is automatically determined to be indigent in Massachusetts if they are collecting welfare benefits, (2) probation is the conduit between the courts and the Welfare Department for the enforcement of restitution orders resulting from a conviction of welfare fraud.

The Registry of Motor Vehicle and probation linkage would be invaluable. The law presently requires Probation to check a person's driving history when charged with drunk driving. Upon a conviction for drunk driving the Registry is supposed to be notified so that a person's driver's license can be suspended. Both of these functions are presently done by way of the manual exchange of information. In most cases the information is not available to either the Registry or the Court in a timely or accurate manner.

The Office for Public Counsel, District Attorney's, Attorney General, as well as, State and Local Police all have a need for access to the offenders criminal records for trial preparation, that information is not presently available in a timely manner.

The Department of Corrections, Sheriffs, Parole Board, and the Division of Youth Services all have a need for probation information for purposes of offender classification, institutional security status, and release decisions. The present system is not able to supply quality or timely information.

Probation and the Office for Children jointly work with children in need of services around issues of school problems,

as well as, physical and sexual abuse. Shared information content, available in an accurate and timely manner would improve inter-agency planning.

In spite of the close inter-relationships required between probation and other agencies and the constant changes in inter-agency relationships, probation today lacks any computer linkage with any of these agencies. This lack of on-line access to quality information to and from other agencies seriously limits probation's present capacity to perform strategic planning.

In addition to lacking the capacity to develop computer linkages with external agencies, the lack of an internal on-line capacity seriously limits strategic planning. For instance, neither the Risk/Need nor MRPA can be analyzed or adjusted in a timely manner to changing conditions in the probation system. For example, the present information systems cannot identify in a timely manner whether or not there are changes in the number of offenders using drugs, school drop-outs, employment rates or other important changes in probation.

6. General Research Information

During the past decade the Massachusetts Probation System has made substantial gain in its ability to carry out general research; but like the other areas of this study there is considerable room for improvement.

Current, timely, and reliable information is limited in probation's present information systems. These limitations create serious data quality problems for many of the research

projects that the probation system initiates. The general research being carried out in probation is usually limited to small data sets, looking at a limited number of variables, for a limited amount of time. The present information system is effective in identifying demands on the system and general recidivism rates. The system lacks the ability to match in a timely manner the relationship between recidivism and availability of resources. The present system is unable to match successful outcome of cases to compliance with probation standards. The system is unable to research in a timely manner the relationship between training program attendance by individual probation officers and improved work performance.

In summary, despite some problems, the potential and value derived from introducing information technology and management into the Massachusetts Probation System has been clearly demonstrated during the past decade. The study has demonstrated that by today's standards, the present information systems are technically flawed and consequently the present probation information system is in need of change. The next section of this study will analyze the employees current state of readiness for additional information technology change in Massachusetts probation.

C. Current State of Readiness For Additional Inforamtion Technology Change

Given the recent history of the Massachusetts Probation System's strong commitment to the use of information technology and management, it is now important to evaluate the

potential for positive future continuity in using enhanced information systems. With Massachusetts Probation's organizational development efforts over the past decade, especially in the area of education/training of probation personnel, it was expected that probation personnel would be in a greater state of readiness to accept further significant changes in the information systems.

To examine the organization's state of readiness for additional information systems change, during the winter and spring of 1987, the Institute for Governmental Services (I.G.S.) at the University of Massachusetts undertook an evaluation of the impact of technology on the workers and workplaces in the Massachusetts Probation System. This evaluation was funded by the National Institute for Corrections and the findings were prepared by Zeroogian, Lussier, Rife, and Heller. This evaluation of the impact of information technology in the Massachusetts Probation System was comprehensive and thorough in scope. For the purposes of this section of the present study an extrapolation of quantitative data from the I.G.S. study will be limited to those sections that address the probation employees' current attitudes about increased use of information technology in probation.

The I.G.S. study questioned workers in the probation system regarding their perception of the impact of automation on them as individuals. The results of the study in TABLE 5.1 shows that "in general the respondents feel that office

automation has had a positive effect on their performance, because it has made their jobs easier, faster and more accurate" (p.13).

TABLE 5.1 Attitudes of Respondents in Automated Courts
Toward Office Automation

<u>STATEMENT</u>	<u>AGREE</u>	<u>NEUTRAL</u>	<u>DISAGREE</u>
The computer has substantially changed the way I do my job.	34%	25%	41%
My job is easier because of the computer system I use.	52%	18%	30%
Compared to doing the same tasks manually the computer is a time saver.	65%	15%	19%
My work is more accurate because of the computer system I use.	52%	18%	30%
My work space is physically comfortable for computer work	34%	23%	44%

The next issue addressed from the I.G.S. study is the perceived changes in job climate. In general what was investigated here was how employees interact with each other and the way employee attitudes affect the workplace. TABLE 5.2 presents the findings of the study in relating to perceived changes in job climate.

TABLE 5.2 Opinions Regarding The Impact of Office Automation on Job Climate in Automated Courts

<u>STATEMENT</u>	<u>AGREE</u>	<u>NEUTRAL</u>	<u>DISAGREE</u>
Personnel who use the computer have more influence in the office than those who don't use it.	21%	21%	58%
People use their work time better since the introduction of the system.	27%	53%	20%
The introduction of the computer has adversely affected people's behavior.	14%	46%	40%

"The above results suggest that the introduction of office automation to the work place has not had an adverse effect on the job climate" (p.14).

Respondents were also asked a number of questions regarding suggestions on improving both hardware and software utilization. TABLE 5.3 will cover answers regarding software and TABLE 5.4 addresses hardware improvements. In both cases the trend is toward further system utilization and expansion.

TABLE 5.3 What Respondents Feel They Need to Better Use The Current System

<u>RESPONSE</u>	<u>NUMBER OF RESPONDENTS</u>
"More software is needed s the system can do more for us."	20
"More training is needed about the total capability of the system."	15
"The system needs updating."	5
"A supplement to PRA is needed."	4

TABLE 5.4 Most Common Comments Respondents Gave When Asked For Suggestions For Improving The Computer Work Space.

<u>RESPONSE</u>	<u>NUMBER OF RESPONDENTS</u>
"More terminals are needed."	29
"More office space is needed"	29
"We need to reduce the noise."	13
"There should be terminals in the courtrooms."	11
"We need furniture that is appropriate for computer work."	11
"We need filter screens to reduce the glare and eyestrain."	3
"We need better lighting."	3

Another important finding in the I.G.S. study that relates to future systems changes is seen in the response from probation offices in which hardware for on-line applications have not yet been installed. Respondent's attitudes and expectations are very positive in those courts which still don't have hardware installed. See TABLE 5.5 for results.

TABLE 5.5 Attitudes of Respondents in Non-Automated Courts Towards Office Automation

<u>STATEMENT</u>	<u>AGREE</u>	<u>NEUTRAL</u>	<u>DISAGREE</u>
My job would be easier if our office was automated	76%	16%	7%
People would use their work time better if our office was automated	74%	19%	10%
The amount of paperwork would be reduced if our office was automated	74%	16%	10%
Amount our office would help the Office of the Commissioner of Probation better achieve its goals.	81%	13%	8%

The I.G.S. study also shows a need to establish better communications between the central probation office and probation field personnel. TABLE 5.6 shows some breakdown in communication about computerization. These I.G.S. findings are consistent with other findings found in chapter four of this current study.

TABLE 5.6 Knowledge of Automation Plans by Position.

<u>POSITION</u>	<u>YES</u>	<u>NO</u>	<u>DON'T KNOW</u>
Chief Probation Officer	29%	21%	50%
Asst. Chief Probation Officer	33%	23%	44%
Probation Officer	25%	10%	64%
Clerical Staff	25%	9%	67%

"A significant relationship was found between job position and knowledge of plans to automate. Although Chief Probation Officers and their assistants were more informed than other employees, a significant percentage of them were still unsure if such plans existed" (p.16).

In general, the I.G.S. study demonstrates that probation employees presently have a generally favorable attitude toward automation. They believe that the computer is necessary for accomplishing their work.

This current and I.G.S. study of the Massachusetts Probation System's efforts at automation demonstrates that the probation system has made enormous stride in the past decade in changing attitudes and expectations regarding computerization.

The I.G.S. study is also consistent with other findings from chapter four of this current study. The respondents in the I.G.S. study point to a number of ways to better utilize information technology in Massachusetts Probation.

In the I.G.S. study the employees indicated that they generally receive sufficient training to perform their duties. However, they indicate a need for more training on the total capability of the present computer system. Employees want more training to help them better utilize the available technology.

The employees also indicate a need for more computer terminals and updated software. The I.G.S. findings are again consistent with findings found in chapter four of the current study.

The findings of the current study and the additional input from the recent I.G.S. study clearly demonstrates that the Massachusetts Probation System is ready to implement an improved comprehensive management information system.

D. Summary

The evaluation of the current information and analysis capacity of Massachusetts Probation examined three different aspects of Massachusetts current information systems. First, the evaluation examined the content, quality, and accessibility of information currently being collected by the MRPA and Risk/Need systems. In terms of information content, the evaluation basically determined that, while reasonably good information is currently being collected on the demand for

probation services (e.g., the need and risk characteristics of probation offenders, the number of risk/need cases, the number of new cases, the number of terminations, etc.) relatively little information is being collected on either the supply of resources available for serving probation offenders (e.g., the amount of time spent on offender interviews, the number of offender contact, the availability of services outside of probation to treat probation offenders, etc.) or regarding the processing of probation cases (e.g., at what stage is a particular case in the probation system). In terms of accessibility, the evaluation determined that the lack of any on-line retrieval capacity in either the Risk/Need or MRPA system greatly limits their utility to probation officers or administrators. In addition, the lack of on-line capacity also was found to negatively impact the quality of data collected because of the possibility of making more mistakes collecting information from a manual system and the possible mistakes arising from manually providing aggregate statistics (e.g., for the MRPA system) from a paper based collection system. In contrast computerized information collection systems would have some quality control check built into them (e.g., they could identify and reject out of range entries such as entering the calendar year 1986 when the actual year is 1987). In addition, computerized information systems could be programmed to produce aggregate statistics from entries made on individual offenders or cases.

The second portion of the evaluation focused on the implications of the review on the content, quality, and accessibility of information in the Risk/Need and MRPA for six management support functions. Generally speaking, it was found that the availability of information on the demand for probation services has greatly enhanced the operational support capacity of Massachusetts probation. The evaluation also found that the general lack of both research availability and case processing information combined has restricted the utility of the two existing information systems for supporting the logistical, monitoring, evaluative, strategic planning, and research management function. The evaluation also determined that the lack of "on-line" accessibility of information contained in the MRPA and Risk/Need system also restricts the utility of these systems for probation officers and administrators.

Finally, the present evaluation also examined the receptivity of probation personnel to further innovation of information management technology. Significantly, virtually all (over 80%) probation personnel surveyed believe that micro computers can reduce their workloads. Of equal significance, a majority of probation personnel do not believe that previous attempts to computerize have made their jobs more difficult.

This high level of receptivity by probation personnel toward further changes in the information systems indicates that probation's organizational development initiatives over the past decade have been reasonably successful.

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Chapter VI

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter will present a summary of the studies findings, conclusions, and recommendations. The chapter is divided into four sections. The first section reviews the significant findings of the study. The second section proposes specifications for an improved comprehensive management information system. The third section identifies some of the expected ways in which each of the six management support areas will be enhanced through the introduction of an improved information management capacity for Massachusetts Probation. The final section examines some of the implications of issues regarding organizational development, leadership, and management in the Massachusetts Probation System.

A. Significant Findings of The Historical Examination and Evaluation of The Current Information Systems

The introduction of technology and information management technology was a significant step in reforming the Massachusetts Probation System. This study presents a comprehensive analysis and evaluation of the information systems in place in Massachusetts today, and it also presents an examination of the organizational development strategies used to implement these systems over the past decade. What follows is a list of the most significant findings of this study.

Massachusetts Probation has moved from a paper-based, decentralized management information system toward a computer-based, centralized management information system. Prior to the introduction of the Risk/Need and MRPA Systems, Massachusetts Probation lacked any reliable systemwide data on the character and magnitude of demand for probation services.

During the past decade the Massachusetts Probation System has initiated and carried out a significant organizational development effort. This effort has had a substantial impact in shifting practices in probation management. Probation has moved from making all decisions on a local office basis, guided mainly by the idiosyncratic beliefs and practices of the local Chief Probation Officer, toward a more standardized system where decisions are increasingly driven by information.

Political and administrative issues relating to information management were analyzed. The findings show that when information systems were initially introduced into probation in Massachusetts, employees were concerned about loss of control over information to manage their units, loss of power within the organizational structure. Also, some employees had generalized anxiety about computers. The study also shows that in 1987 most of the above concerns have disappeared.

In terms of information content the evaluation basically determined that while reasonably good information is currently being collected on the demand for probation services (e.g., the need and risk characteristics of probation offenders, the number of risk/need cases, the number of new cases, the number of terminations, etc.), relatively little information is being collected on either the supply of resources available for serving probation offenders (e.g., the amount of time spent on offender interviews, the number of offender contact, the availability of services outside of probation to treat probation offenders, etc.) or the processing of probation cases (e.g., at what stage is a particular case in the probation system).

In terms of accessibility, the evaluation determined that the lack of any on-line retrieval capacity in either the Risk/Need or MRPA system greatly limits their utility to line probation

staff and probation administrators. In addition, the lack of on-line capacity also was found to negatively impact the quality of data collected because of the possibility of making more mistakes collecting information with paper based collection systems and the possible mistakes arising from manually providing aggregate statistics (e.g., for the MRPA system) from a manual data collection system. In contrast computerized information collection systems would have some quality control check built into them (e.g., they could identify and reject out of range entries such as entering the calendar year 1986 when the actual year is 1987). In addition, computerized information systems could be programmed to produce aggregate statistics from entries made on individual offenders or cases.

The study reviewed implications of the content, quality, and accessibility of information in the Risk/Need and MRPA for six management support functions. Generally speaking it was found that the availability of information on the demand for probation services has greatly enhanced the operational support capacity of Massachusetts Probation. The evaluation also found that the general lack of both supply and case processing information combined has restricted the utility of the two existing information systems for supporting the logistical, monitoring, evaluative, strategic planning, and research management function. The evaluation also determined that the lack of "on-line" accessibility of information contained in the MRPA and Risk/Need system also restricts the utility of these systems for line probation staff and administrators.

The study found that the Risk/Need System provides a useful mechanism for probation officers to effectively manage their cases. When data from Risk/Need is supplemented with criminal record files, a refined analysis of offender recidivism can be conducted and becomes a new and useful tool for line probation staff and administrators.

This study has concluded that aggregate information from both the Risk/Need and MRPA systems can serve as a basis for planning, budgeting, monitoring, and evaluating programs, policies and procedures.

The present evaluation also examined the receptivity of probation personnel to further innovation in information management technology. Significantly, virtually all (over 80%) probation personnel surveyed believe that micro computers can reduce their workloads. Equally significantly, a majority of probation personnel do not believe that previous attempts to computerize have made their jobs more difficult.

The high level of receptivity by probation personnel of further changes in the information system indicates that probation's organizational development initiatives over the past decade have been reasonably successful.

B. Specifications For an Improved Comprehensive Management Information System

The previous chapter evaluated the major contributions and also limitations of the two primary information management systems in use in Massachusetts Probation. Drawing on this evaluation, specifications will be set forth for an enhanced information management capacity for Massachusetts Probation. The description of this prototypical system will be divided into four sections: 1) the information content or data elements collected in the system; 2) the overall database structure underlying the system; 3) the accessibility of information in the system to users, and finally; 4) a brief description of some of the software and hardware architecture necessary to support the system.

1. Information Content

The data collected through an enhanced information management system would basically expand in three major areas beyond the present Risk/Need and MRPA systems.

First, more information would be collected regarding the individual offender. Thus, more information would be available regarding the individual offender. Thus, more information would be collected on the demand for probation services. Second, in contrast with the present information system, information regarding resource availability to service probationers would be collected. This would provide information on the supply or input character of probation services. Third and finally, the new system would collect more comprehensive information on the processing of probationers through their time in court and also while they are under probation supervision.

With regard to the demand for probation services, more information will be collected on the system concerning a probation offender's need and risk characteristics. Review of current probation literature will identify new categories of information to collect directly from probation offenders. However, in addition to collecting more refined information directly from the probationers themselves, an enhanced probation management information system will also interface with other public agencies to collect supplementary data on offender risk and need characteristics. This enhanced system will interface with, the Department of Welfare, the Department of Revenue, the Registry of Motor Vehicles, the Division of Youth Services, the Office of Children, the Division for Alcohol and Drug Treatment, as well as, other agencies.

Information from these agencies will be integrated into the probation system to develop a more accurate picture of an offenders needs and risk. Thus, for an offender under probation supervision for drunk driving, information on this persons' prior motor vehicle accident history and/or treatment for alcoholism would be useful information for a probation officer in determining the degree of risk the offender represents to society and also the level of supervision and type of treatment the offender will require.

The specific elements of information which will be obtained from other state agencies will depend in a large part on the development of computerized information systems in these agencies. It will also depend, however, on having a common identification or client ID by which information can be limited. Several types of identifications, perhaps, can be used, with social security number, name, and birth date being logical. Some probation offenders, however, do not have social security numbers (or do not know them), and they may also go by several different names. For such offenders, it will be difficult to acquire information regarding the offender from other state agencies. A final constraint on the transfer of information from other state agencies could be new state laws or regulations on an individuals right to privacy. As such legislation is developed, however, the right to privacy will have to be balanced against the right of the public for protection and the right of the offender to receive the most

effective services available. In addition, the individual offenders right to privacy must be guarded in any new information system through the careful implementation of restrictions on access to offender information except to legally authorized persons.

In terms of information supply or input characteristics, a broad range of information must be integrated into an enhanced information system if probation is to effectively manage its own affairs. In this area a new system would collect information on the day to day activities of probation officers, e.g., investigations, offender contact by phone, contact in person, attempted contacts, referrals, time spent with probationers, etc. Much of this information is presently kept by individual probation officers in the form of entries in log books. Once such information is entered into a log kept on a micro or lap top computer, however, this becomes information which can then be directly integrated into a comprehensive probation information system. With integration of such information it will be possible to monitor more closely the supervision practices of individual probation offices and also examine the relationship between such practices and offender recidivism rates and other performance outcomes.

Characteristics of local probation offices, as well as, District, Juvenile, Probate and Superior Courts would constitute a second level of supply or input

characteristics. This would include information such as the number of probation officers, clerical personnel, and any other personnel on the probation office staff. It would also include information on characteristics of the office's physical plant, such as the amount of office space and how it is organized, to the number and type of micro computers available to the staff. Finally, information would also be collected on both the level and type of experience of probation officers, as well as other staff, and also on the salary levels of probation officers and support staff.

With information on the level of staffing, the physical facilities, the range and depth of staff experience and the salary level of staff, it will be possible for probation administration to evaluate whether probation personnel are allocated in a manner to optimally meet the demand for probation services across each court within the judicial system. The distribution of probation staff and expertise would be optimized against the level and character of demand for probation services within each court. Thus, there would be an explicit attempt to match the input or supply of probation services against the demand for such services across courts within the system. Interestingly, within specific courts, once information is available on the demand characteristics of specific offenders and also on the specific supply characteristics at specific probation offices, (e.g., type of expertise, current workload, etc.), offenders

will more consistently receive the best available resources within a given probation office. In addition, if no such expertise is available it may also be possible to find expertise for the offender in other nearby offices.

A final level of supply side characteristics to be included in an enhanced probation information management system are resources available to probation officers and offenders which are not part of the probation department or do not come under probation authority. Such resources would include government and privately funded training programs, treatment programs, and support groups.

2. Database Structure

The basic structure of an enhanced probation management information system would be relational. A relational database allows for the maintenance of separate data files for each different data source. Thus, a database could be established for: offender characteristics; probation officer activities; probation officer characteristics; probation office characteristics; and perhaps external resources.

In this type of database, for example, data on offender characteristics would be stored in one file or table while data on probation officer activities would be stored in a separate file or table. For analytical purposes, however, the files could be "joined" to create new files which combine the information of pre-existing files.

These files could be joined in an enhanced information

system because the linking identifiers would be maintained in separate files.

For example, each probation offenders file would identify which probation officers had supervised the offender, as well as, what services or training the offender had received. This would allow for the examination of offender performance (e.g., recidivism) by probation officer activity (contacts, referrals, etc.) and by the type of training or services the offender had received. Such an analysis could be performed because in this type of relational database structure the performance of each offender could be joined with the activities of his/her respective probation officers and the particular types of training and services the offender received.

In the relational database structure proposed for an enhanced probation information system data security will be maintained for all elements and data sources within the system. The semantics of most database languages (for example see INGRESS) are sufficiently complex to guarantee access authorization and data integrity to be declared with very great specificity. Control is effected by modifying each retrieval or update operation by these declarations so that what is executed is guaranteed data security. Importantly, specific persons, offices, or other units can be carefully restricted as to what portion of the database they can access. In addition, individuals and offices can not only be

restricted in terms of what they can access, but also in terms of what functions they are authorized to perform. Thus, some individuals or offices may retrieve data but they might not be authorized to modify records on the database.

3. Information Accessibility

There are two major problems in the accessibility of an enhanced information system: data entry and information retrieval. For a system to be useful to both operational personnel and administrators, data must be entered on an on-line basis and information must be available for retrieval on an as needed basis. Both conditions would be requirements for an enhanced probation information system. With the advent of very low cost micro and lap top computers, however, on-line data entry will be easier than providing all information on an as needed basis. The former is primarily a technique with a relatively low cost answer the latter is both a technical and analytic problem.

4. System Architecture

The hardware and software specification to support an information system should, quite obviously be driven by the data management and analytic requirements of the informational system itself.

In the case of the proposed probation system, it would require: 1) storage capacity for all offenders past and present, for probation officer activities, for probation office activities and for external resources; 2) the ability to have an on-line capacity of up to 100 individuals at any

one time processing information; 3) the ability to produce as needed reports and; 4) the ability to produce customized analytic files for specialized research projects.

The hardware to support such a system would include the following components: 1) a large mini computer (for example a VAX 8800 such as DOC recently acquired); 2) approximately 10 giga bytes of disk storage capacity, and 6250 tape drives. In addition, data entry devices would be provided by ensuring that all probation offices had micro computers and each probation officer and Regional Administrator had lap top computers. Information from these systems would be transferred by phone lines to the main computer system.

The software to support the proposed system would be a fourth generation distributed database languages such as INGRESS. Such a language can build relational databases that can be distributed (and communicate) across many different modes (e.g., probation offices). In addition, such a language can provide for natural language interface with users. Such an interface will allow both line probation personnel and administrators to actually ask basic questions of the database in an english language form. Thus, inquiries would be made of the system by personnel needing little or no knowledge of computers.

Ultimately, improved information content, data-base structure, information accessibility, and improved system architecture will lead to substantial improvements in the

areas of management support. These improvements are outlined in the following section.

C. Management Support Benefits Derived From The Improved Information Systems

This study has shown that if a probation agency is interested in knowing whether or not it is doing a good job, the agency must improve its information technology and management capacity. Probation agencies without an effective information management and analysis capacity will tend to drift from one crisis to the next due to a lack of planning, evaluation, and operational support. Unfocused drifting probation departments are vulnerable to criticism from judges, legislature, the media, and the general public. As society seems to be moving toward an era of diminishing fiscal resources for government agencies, probation departments which lack information systems will find funding sources inclined to be unsympathetic to budget request.

An information system that contains reliable content, quality, and accessible information will be imperative for probation departments which seek to demonstrate an organizational sense of purpose and a positive performance record.

This section of the study will describe suggested improvements in the following six management support functions for Massachusetts Probation; (A) operational information, (B) logistical support information, (C) management control

information, (D) problem analysis information, (E) strategic planning information, (F) general research information.

1. Operational Information

The major improvements in this management support function will come about as a result of moving from a batch to an on-line computer capacity. The new on-line capacity will also be important as to the improvements in the other five management support functions.

In the area of operational information, the improved on-line system will further advance the present probation systems capacity to identify the following demands placed on the system: the number of persons arraigned; the number of Risk/Need cases added, terminated and under ongoing supervision; the number of drunk drivers arraigned and supervised. The system will identify the number of child support enforcement cases, children in need of services, children in need of care and protection, and delinquency cases in Juvenile court. With the new on-line system probation will be able to improve the collection and disbursement of financial orders.

The on-line system will improve quality and availability of the operational information because the information will be available to the line staff and local office managers. Risk/Need will become a computerized expert system, improving the quality of the supervision decisions made by probation officers. The computer system will allow for statewide listings of resources available to probation

offices to meet the offenders' needs.

Because the present day probation operation is becoming more complex, probation will continue to require close working relationships between probation and the following state and local agencies; Clerk of Court, Department of Revenue, Welfare, Registry of Motor Vehicles, Office for Public Counsel, District Attorneys, Attorney General, State and Local Police, Department of Corrections, Sheriffs, Parole, Office for Children, and Division of Youth Services.

The operational information linkage between probation and the clerk of court is essential because, when a person appears before the court, the official charges are issued through the clerk's office. Presently, there are seven duplicate areas of information which must be exchanged between probation and the clerk of court. On-line computer capacity will avoid duplication of content, improve quality and accessibility of information in the following areas: court dispositions, issuing of warrants, collection of monies, scheduling of trials, pre-trial conferences, docketing of case reviews, and termination of individual cases.

The interaction between probation and the Department of Revenue is substantial. Both agencies have dual financial collection responsibility for child support cases. In addition to child support orders, a linkage between the Department of Revenue and probation would be beneficial in determining an offenders income status regarding eligibility

for court appointed counsel.

The on-line linkage between probation and the Department of Welfare will be helpful in two areas: (1) in the appointment of public counsel, a person is automatically determined to be indigent in Massachusetts if they are collecting welfare benefits, (2) probation is the conduit between the courts and the Welfare Department for the collection of restitution orders resulting from a conviction of welfare fraud.

The Registry of Motor Vehicles and probation linkage is essential. The law requires probation to check a persons driving history when they are charged with drunk driving. Upon a conviction for drunk driving, the Registry must be notified so that a person's driver's license can be suspended. Both agencies have a need to exchange information in a timely and accurate manner.

The Office for Public Counsel, District Attorneys, Attorney General, as well as, State and Local Police all have a need for access to the offenders' criminal records for trial preparation. With a full on-line system probation will be able to supply this information in a timely manner.

The Department of Corrections, Sheriffs, Parole Board, and the Division of Youth Services all have a need for probation information for purposes of offender classification, institutional security status, and release decisions. The new on-line system will be able to exchange quality and timely

information between these agencies.

Probation and the Office for Children jointly work with children in need of services around issues of school problems as well as, physical and sexual abuse. Shared information will result in more accurate and timely content, improving both agencies capacity to serve the youngsters.

2. Logistical Support Information

Logistical support data from both the Risk/Need and MRPA Systems requires constant monitoring to ensure the quality and reliability of the information. A new improved on-line system will go a long way in enhancing probation practice in Massachusetts. The present batch system can be monitored to determine whether or not probation personnel are doing things right relating to major activities, such as, investigations, offender assessments, and probation officer supervision. The new on-line system will be able to add insights into another crucial question, is probation doing the right things?

The on-line systems will have a tremendous impact in the area of logistical support information. The new systems will lead to substantial redesigning of the probation officer's job. Computer literacy will become a job requirement. Probation Officers will be able to use lap-top computers to record their field supervision notes, this new equipment will allow management to monitor probation officer productivity, without the probation officer needing to spend much time in the office. Computers will assist the line

officer in supervision by automatically telephoning offenders' residences when they fall behind in payments of court obligations. Offenders who are supposed to be at home during specific hours of the day can be called and a voice recording can ask specific questions of the offender. The probation officer can review the tapes at a later time. On-line systems will allow probation personnel to share information about offenders and allow for supervision of offenders identified as having special needs to be supervised by a probation officer who has the required expertise. The regional administrators will be freed up from some of the present monitoring functions and spend more time on the technical assistance and training functions. The jobs of Chief Probation Officers and Assistant Chiefs will undergo change as a result of the new on-line system. Chief Probation Officers will be able to use the more accessible information to be on top of changes in the routine operation of their office. Assistant Chiefs will play a strong role as local trainers and performance monitors as the new on-line system identifies resource and staff competency problems in a more timely manner. The support staff at the local office level will also benefit by the new system because there will no longer be a need to maintain cumbersome dual information systems. The offender and the general public benefit from this new system and the resulting job-design changes. Offenders will get better service by improved access to resources, the public will get greater safety because

infractions by the offender can be responded to in a more timely manner. In general, the new system brings greater fairness and equity to probation practices because more timely and accurate data allows for a more effective measure of workload, leading to necessary adjustments in agency resources when a serious resource overload or shortage is identified.

3. Management Control Information

As this study has demonstrated, the role of probation is becoming more complex. With increased complexity, probation has to be better able to measure the systems actual practices against the agencies policy objectives.

Measures, such as, the number of investigations carried out, the recidivism rates by individual probation officers and offices, the amount of money actually collected for fines, restitution, child support, victim-witness fees matched against how much the court ordered to be collected, are all possible measure of practice versus policy. The on-line system will require probation managers to become more skilled at data analysis. Improved data analysis will lead to more effective planning and evaluation at the local and central office level.

This new function of data analysis will lead to greater management control and will also raise the level of agency performance. Local managers who become more skilled at identifying substantial changes in the routine activities and performance in their offices will also be quicker in

developing and testing hypothetical explanations for the changes. This new skill of data analysis will mean that there will be greater consistency between policy and practice in the agency. When a change in routine activity comes about because of poor personnel performance, this deficiency can be corrected by appropriate actions on the part of the local manager. On the other hand, when the change in routine activity is a result of substantial changes in the type of offender or offenses coming into the system this might be an important warning signal for needed policy and practice changes in the entire system. Positive and effective management control is very difficult to attain in a dynamic field such as probation. The new on-line system will go a long way in bringing about effective management control for probation in Massachusetts.

4. Problem Analysis Information

The ability to analyze data in a timely manner is a crucial ingredient if probation is expected to be effective at organizational problem analysis. With an improved on-line mainframe and integrated micro-computer system, probation will be able to use this increase in computer capacity to establish large data bases that will allow for quicker identification of major organizational problems.

With an on-line system, staff and managers in probation will be able to consider a number of organizational structure issues. These issues have been discussed extensively but not

evaluated during the past decade. Because probation officers in Massachusetts perform such a wide variety of functions, there are a number of practices needing review: Should probation create specialized units for intake and pre-sentence investigations? Should paraprofessionals be used for the surveillance and clerical administrative functions? Should supervision services be centralized, or further dispersed with satellite offices serving specific geographic areas? Should the Assistant Chief position only be responsible for money collection functions or continue to be responsible for assuring quality of field supervision services?

These and other very difficult questions can finally be addressed with the increased computer capacity. With the Risk/Need, MRPA, Probation Receipt Accounting, and Probation Central File Criminal Records Systems all functioning as integrated on-line systems, substantial improvements will be made in the agencies ability to use the content of the information systems in a timely manner to identify policy and practice problems.

The probation system's on-line capacity will allow the agency to tie into the data systems at the Department of Revenue, Welfare, Registry of Motor Vehicles, Corrections, Parole, Division of Youth Services, Division of Social Services in an effort to identify and improve policy and practice in probation. Ultimately, the on-line systems will avoid the present pitfalls of not being able to evaluate

current policy, or to frame proper questions about new initiatives in a timely manner.

5. Strategic Planning Information

The new improved on-line information systems will create a revolution in the area of strategic planning. With the potential of being tied into such a large number of data bases from both within and outside the probation agency, the area of strategic planning will become more effective.

Because of the fact that the Massachusetts Prison System is the most overcrowded in the nation, probation handles very volatile clients. This overcrowding problem won't abate in the foreseeable future, and, therefore, the Risk/Need System will continue to be an important management tool in determining organizational resource allocation and effectiveness. An area which might bring about change in the correctional mix is contracting out to the private sector of some prison functions. Also, probation may have more fiscal resources available to purchase services for drug, alcohol, and other counseling services. Planning for these changes will come about through the use of the integrated data base systems. Program evaluation, increased fiscal accounting capacity, and general resource development and deployment will become important to probation. Other shifts in the probation environment that will depend on the new on-line system evolve around the expected increase in the number of child support cases needed to be supervised. Plans will have to be

made for the "echo-boom" generation which will probably bring about increases in the juvenile caseload in the early 1990's.

In the past, whenever probation has been faced with the planning and monitoring of new programs, probation has used a "shot gun" approach. The new improved information system will allow computerized program models to be built for planning purposes and thus allow for more effective use of resources. Ultimately, the new on-line integrated information systems will mean that probation can use information to make more realistic and effective strategic plans. Probation will no longer be at the mercy of unanticipated future demands on the system. As the new demands are put on the system, probation will be better prepared for change and have the potential of having resources in place to supply whatever new services will be required.

6. General Research Information

From the beginning of the American experiment with probation, the notion that criminal offenders are deserving of, and amenable to, rehabilitative efforts has been a central philosophical position.

It is only during the past twenty years that the assumptions upon which the philosophy of rehabilitation is based have come under intense criticism. This is an area which highlights how the lack of computer information systems has left probation vulnerable. Even with the addition of the batch information systems in Massachusetts Probation, recent

probation research studies have been limited in scope. As a result, the agency has still not been able to design a comprehensive research plan to evaluate probation's effectiveness as a correctional sanction.

The new on-line systems, with integrated data bases, will finally allow probation to produce quality, empirically based knowledge about probation in a timely manner.

There are a number of pressing questions which need to be addressed by researchers relating to probation effectiveness. A major question for probation is, can recidivism rates be reduced by introducing an intensive supervision program for the highest risk group? In light of the high recidivism rates in the first six months of supervision, will short-term resource-oriented programs, such as, financial aid and job placement, or counseling interventions specialized around substance abuse and contract programming reduce recidivism? Are present programs, such as, shock incarceration as part of probation supervision a fad or an effective sanction? Are there any strategies tied to specific behavioral science theories which lead to more effective interventions with general or specific offender groups?

Probation research on programmatic interventions have rarely set up true experimental or quasi-experimental research models to determine effectiveness. Even programs evaluated as ineffective in the past could be resurrected, because with the

on-line computer capacity probation could now probably determine if there were sub-elements of the programs that were effective.

In summary, it is obvious that the suggested improvements in the computer information systems will benefit all areas of management support information. The improvements in the information systems content, quality, and accessibility has the potential of organizationally revolutionizing the Massachusetts Probation System.

D. Information Technology, Organizational Development, Leadership, and Management in The Future of Massachusetts Probation.

The current study has attempted to evaluate the relationship between information technology and the changing environment in which probation operates in Massachusetts.

This study has covered three aspects of the relationship between information technology and probation. The first aspect of the relationship is seen in the fact that Massachusetts Probation has gone from a low-technology, low-information driven system of the late 1970's to the present, where technology and information play a key role, to the future where information and technology will be the central force in the probation system. The second relationship between information technology and probation covered in this study has been seen in the description of the continued impact of information technology and management on the organization and the people it employs as well as the people it serves. The third relationship identified in this study has

been the description of leadership and management changes instituted so that information technology could be effectively employed to successfully handle the changes which have taken place in probation.

The remainder of this chapter will deal with recommendations for further developments in the enhancement of information technology as it relates to organizational development, leadership, and management changes in Massachusetts Probation.

1. Technology and Organizational Development

As probation makes greater use of information technology it will become increasingly important to continue to maintain a proper balance between process, people, and technology issues. The new and improved ways of doing probation work described in the prior section of this chapter will emerge from the use of information technology. These ways of working will end up being not only better for people working in the system, but also dramatically more effective in promoting law-abiding behavior by the offender. Technology will allow probation of the future to finally fulfill its promise as "corrections brightest hope".

With the changing content, improved quality, and on-line accessibility, the Risk/Need and MRPA systems will move probation from a functional organization to a client centered organization. By effectively using information technology probation will be able to set up programs which do not attempt to treat everyone the same. The probation system will be able

to use more accurate and timely information to establish comprehensive differential programs. The new probation process will include offender screening, diagnosis, case planning, effective discipline for offender digressions, individual, group, and family counseling, educational tutoring, pre-vocational training, fitness programs, pre-probation release planning, and role modeling of effective living and relationships by probation staff.

These changes in probation will add strength to the need to examine on an on-going basis organizational and human factors in probation agencies. Effective management of information technology will move evaluation of organizational and human resources into a position of being as strategically important as the technology itself. The information technology will have to play a role in helping the offender experience success, such as setting up a computerized literacy training program for some offenders. The technology will also have to be used to free up probation officers' time so that they can establish positive relationships with the offender.

If the Massachusetts Probation System is to continue to employ technology strategically, it will become even more important to balance process and people issues with the technology. In order to ensure innovation, change, and creativity in probation's use of technology, an effective use of knowledge and experience about the field of organizational development will become increasingly crucial to probation managers. Training and staff development will become crucial

in helping probation officers upgrade their knowledge and skill. Probation managers will have to support staff development initiatives in the probation system of the future. Probation managers themselves will need to be immersed in a constant state of learning. People with administrative positions in this constantly changing probation system will require changing styles of management and leadership.

2. Leadership and Management

This section of the study will integrate insights and recommendations about leadership and management as they relate to information technology in probation.

Styles and effective use of leadership and management skills will change considerably in future probation systems as they continue to make better use of information. Because technology can make information more expandable, transportable, diffusive, and sharable, leadership and management practices based on the vertical concepts of hierarchical management will become more archaic and ineffective in probation. Because of ineffective attempts in the 1960's at social engineering, today's public bureaucracies are now divided into a collection of sub-systems, with limited tasks, competence, and resources. Information is fragmented and many people are invested in keeping this information fragmented. But despite all obstacles, it will be essential for the enhancement of organizational innovation and change to have on-line information systems. This expansion and increased access to information will radically alter probation

leadership and management structures.

Because probation work will become increasingly complex as probation works with and through more organizations, information sharing will become a core operational concept in probation. The concept of organizational hierarchies will need to change.

Organizational hierarchies will be flattened by information technology. Power and styles of participation in organizations will shift with more use of work teams horizontally sharing decisions. All personnel in the organization will be required to continuously learn new skills. This increased need for continuous learning will increase requirements for greater teamwork in the organization. This increased use of work groups, information sharing, and continuous learning will require greater decentralization, with increased responsibility being given to all persons in the organizations.

Concepts of leadership and management will change dramatically with increased use of information technology. Probation will change with the introduction of work groups and changes at the individual worker level leading to increased worker responsibility. Information technology will probably have the greatest change in the role of supervision of workers, especially at the level of Assistant Chief Probation Officer (ACPO) and Regional Administrator (RA). These changes will come about because of the nature of technology itself as

well as many changes technology will continue to bring to probation.

This current study started out stating that one of the most pressing problems in our society today is crime and its control. The study has described how the Massachusetts Probation System has tried to deal with this problem, in part, by using information technology and management as a core concept in a changing and evolving probation system. The study has demonstrated that technology has played a central role in trying to get more consistency between policy and practice in probation. But the study has also shown that consistency is increasingly more difficult to attain as the system gets larger, is subject to more demands, and expands to meet the new and changing demands.

The elusive goals of the delivery of justice, controlling crime and having an effective organization will require constant change and organizational leaders who are willing to use information technology while striving for organizational excellence.

On-line information systems will be the key to leadership and management excellence. In the future the on-line inputs of Risk/Need will lead to more effective organizational diagnoses. With more offender information available it will be possible to have more timely and accurate research on organizational effectiveness. The relationship between the types of services needed and the services available will play an important role for local Chief

Probation Officer's in developing resources. Line staff will develop more positive attitudes toward management as the line staff gets greater control of and feedback on resource availability and effectiveness. Individual probation officers will be able to use the computer technology to do much of the present day routine paperwork.

Leadership and management will improve as Chief Probation Officers and Central Office Administrators use the on-line information to get more timely and accurate monitoring of probation standards compliance. The on-line system will allow probation to evaluate whether or not it is doing the right things. Probation officers' concerns and needs can be met by having an increased amount of information available. With the ability to evaluate the outcome of cases, the organization will be able to match up the skills of probation officers with the offenders needs. This ability to evaluate individual and organizational effectiveness will lead to improvements in the training programs offered to probation personnel. Ultimately from the viewpoint of organizational effectiveness, the on-line systems will allow probation to move away from responding to the "squeaky wheel" and allow managers to identify and respond to the actual major problems in the organization.

In order to ensure future excellence in probation the following two leadership positions in the Massachusetts Probation System which will have to undergo the greatest

change as a result of information technology are the roles of the Assistant Chief Probation Officer (ACPO) and the Probation Regional Administrator (RA). Some of the specific role changes will be:

Reduced need for these supervisory positions to be focused on the monitoring/control function in the organization. An effective information system will highlight problems in employee consistency and performance faster than the labor intensive manual control systems presently in place.

As the probation system continues to become more complex the role of the ACPO and RA will shift to the critical roles of problem diagnosing and coaching. While employees are likely to possess more detailed information through computer technology, the organization is going to require persons in the system who understand the larger organizational implications of certain types of information. The ACPO and RA will then need problem solving and coaching skills to lead the local offices to solve their problems consistent with systemic goals.

Managers in the probation system of the near future will not be managing downward and therefore the ACPO and RA will have to become a resource broker in order to maintain their leadership positions in the organization.

3. The Need to Manage Change

As this current study clearly demonstrates, information technology has many impacts on an organization. The introduction of information technology into probation in Massachusetts during the past decade has impacted the organization's management boundaries and structure. It has modified the way probation work is performed; it has changed the skills required of practitioners; it has impacted the role of supervisory positions in the organization. It is clear that change has taken place in probation. It is also clear that this ongoing change has to be managed. What is less clear is how the evolving changes in probation will and must be managed. What follows are suggestions on how top management in probation, both in Massachusetts and nationally should approach the management of future change brought about by information technology.

The following five concepts will be central to any organizational leader's efforts toward the management of change in probation:

If the past decade's experience with information technology has demonstrated anything about changes in the probation system in Massachusetts, it has demonstrated the importance for probation leaders to remember that effective strategic thinking is a core concept for successful utilization of information technology. In order for the probation system to flourish in the future, it

will be necessary for the information technology to be used to develop strategic planning models which will address changing human and organizational needs in probation.

In order to have probation at the cutting-edge of positive organizational change, it will be necessary for the chief executive of the probation system to be the chief architect of the information system. The chief executive cannot afford to leave technical decisions to the specialist. The chief executive must assume and maintain an active leadership role in shaping the information technology initiatives in the probation system.

The probation system of the future will require major and constant reorganizations at the work group level, if information technology and management are going to be effectively used. In order to have strategic and operational planning as a viable tool in the probation system, resource re-allocation and all of its accompanying problems will become a necessary function for the probation executive.

Few public managers, and even few information technology professionals, have been trained to deal with the complex problems associated with organizational development and change issues.

Clearly, without personnel having the needed mix of technical, conceptual, and interpersonal skills required to manage change, information technology will never realize its full potential in probation.

The final issue that the future leaders and change agents in probation are going to have to deal with will be the systems desire to lock into today's reforms and experiments and resist any future efforts to change. Human nature being what it is, people will resist future change. What we don't know today is what form the resistance will take. Increasing developments of new technology will result in a whole new set of yet unknown problems which will confront the future systems change agent and information technologist.

In summary, the experience of managing in the field of probation during the past decade has been a stimulating and exciting journey. The journey into the future of probation management will prove to be even more exciting and demanding. This study clearly demonstrates that effective and efficient use of information management and technology will be a significant ingredient in the future management of the Massachusetts Probation System.

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