U. S. Department of Justice
National Institute of Justice

Basic Issues in Prosecution and Public Defender Performance

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James L. Underwood
Acting Director

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U.S. Department of Justice
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FOREWORD

This document is one of four produced under the National Institute of Justice's Performance Measurement Program, a long-range research program to improve performance measurement practices in criminal justice agencies. Like its companions, it entails a review and synthesis of performance and measurement concepts for the purposes of conceptualizing the general problem and of developing an agenda for future performance measurement research.

Each report deals with performance in the context of some function of the criminal justice system: Police, Prosecution and Public Defense, Courts, and Adult Corrections. "Performance" is therefore discussed in terms of the objectives and activities specific to that function as well as in terms of the general definitional and measurement issues frequently raised in the context of public accountability and administration. The result is a balance between the concreteness of the daily realities of quantitative management and the abstractness of measuring an elusive concept called public agency performance.

The volumes don't advocate a host of new measures, a "bottom line" or formula for improving the administration of the courts function. So many measures of performance have already been proposed that agency managements are faced with the prospect of expensive automation in order to produce an over-abundance of statistics. Rather than promote that kind of expenditure, the Institute embarked upon this effort to sort out perceived measurement needs and to crystallize competing perspectives on performance. The fact that each volume in this series offers a different perspective on the subject affirmed our assessment that we are still some way from mechanical application of measurement schemes.

Each volume contains an integrated, thoughtful assessment of some key performance issues, yet there is little redundancy. We encourage researchers and practitioners to read all four conceptualizations in order to familiarize themselves with the range of perspectives that can be taken. We hope that the studies will encourage others to refine their thinking on this difficult subject and to make other contributions to this critical but as yet under-developed aspect of criminal justice administration.

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PREFACE

This report, Performance Measurement for Prosecution and Public Defense, represents the first phase of a long term effort to develop a theory of performance measurement for prosecution and public defense; design and test models for measuring the performance of these two public agencies; and ultimately bring forth a set of measurement principles and guidelines.

This first phase addresses solely the theoretical aspects of performance measurement and sets forth a conceptual and theoretical approach for measurement. It defines the scope of the task, the approach that appears most feasible given the complexity and diversity inherent in these public agencies and the utility of performance measurement systems.

Once a theoretical base has been established, then it is possible to address the more practical problems of designing and testing measurement systems under actual operating conditions. Thus, this report takes only the first step by providing a foundation for subsequent research.

ACKNOWLEDGEMENTS

Grateful acknolwegement is extended to the members of this project staff, Kevin Brosch, Matthew McCauley and Credella D. Washington, who provided dedicated support and assistance.

Credit also needs to be extended to Edward C. Ratledge of the University of Delaware and Stanley H. Turner at Temple University for their assistance in the development and refinement of the theoretical and conceptual approaches presented here. The fruits of their labor are clearly visible by the development of a provisional criminality scale presented in the Appendix. It is to this type of measure that priority attention needs to be given and they should be proud of their contribution to the field of measurement research.

Finally, I am grateful to have this opportunity to thank both Richard Linster and Edwin Zedlewski of the National Institute for their encouragement, support and assistance. Their interest in this project and the issues it addresses provided stimulating discussions and helped focus the issues of performance measurement in sharper detail.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

LIST OF FIGURES

I. DEVELOPING A THEORY OF PERFORMANCE MEASUREMENT FOR PROSECUTION AND PUBLIC DEFENSE: AN OVERVIEW

A. Background

The current emphasis on "performance measurement" in the criminal justice system has been met with ambivalence by system operatives. Everyone wants and applauds the accountability it would bring but many are fearful of the evaluations and standards that may result. Despite this, most practitioners and researchers admit that new approaches to performance measurement for criminal justice are needed. The very existence of this research project, initiated by the National Institute for Justice, typifies the national priority being given to determine how the performance of the criminal justice system and its components should be measured and for what purposes. Ultimately, the fruits of this effort and other related ones, should yield a capability for evaluating the performance of the system and comparing the efficacy of different systems in different jurisdictions.

The demand for increased accountability is not unique to the justice system. It is, in fact, occurring at all levels of government. County boards or local governing bodies are insisting that local agencies, including police, prosecutors and courts, justify the expenditure of tax dollars in terms of services rendered. At the state and national level, plans are being developed that place increasingly greater emphasis on "production" and "performance" even though at the current time, no one is quite sure what those terms mean, especially in the context of the delivery of criminal justice services.

The apprehension felt by the practitioners in the criminal justice system about performance measurement is natural. Performance measurement is a little like a dental check up--everyone agrees with the concept of dental hygiene, but somehow a check up always implies the drill. So it goes with performance measurement. Who can argue with some of the underlying goals of performance measurement--accountability, predictability, scientific evaluations? Still, there are other aspects of the performance measurement approach, its rigidness, emphasis on production and demand for absolute standards, that sit uneasily in an operation designed to provide services which often defy easy quantification. Criminal justice agents, therefore, may believe in the concepts of accountability and efficiency; but they are wisely wary of the unrealistic standards or values that may be forced on them by well-meaning but naive researchers.

Part of this caution is due to the fact that the criminal justice system area does not lend itself easily to analysis; nor does it adapt well to many of the traditional social science methodologies. The development of criminal justice concepts and methodologies has had a history of uncertain successes in mixing and blending approaches

suggested by numerous social science disciplines. Research performed in the field of criminal justice in the past ten years has done much to establish the basic parameters of what has come to be known as "the criminal justice system." Studies have intricately described and analyzed the operations of the various system components, and outlined the basic interdependencies that make it a "system." All of the success in this area has only deepened the need, however, for fundamental research and understanding about how the system as a whole performs, and the proper way in which the system's performance should be measured.

Prior to the last decade's avalanche of research effort, most significantly sparked by the formation of the Law Enforcement Assistance Administration in 1968, any analysis or research done in criminal justice focused on the individual components of the system. There was little emphasis on research designs that provided a comprehensive view of the entire system or defined and examined the system linkages. In fact, even the concept of "system" is missing from many of the important early studies (Baker, 1933:770-796; Miller, 1969). It was not until the 1960's when computers became an integral part of support activities that an environment was created for better rationalizing the criminal justice process. What before had been approached on a fragmented and individualized basis was now visualized as a system composed of a number of interrelated and dependent parts whose operations and procedures were internally linked, and inextricably tied to identifiable external influences.

The "system" theory, although a valid analytic tool, nevertheless, had its limitations. In actuality, the criminal justice system more often behaved like a "nonsystem," a group of related organizations existing in uneasy symbiosis rather than cooperating in a synergistic process. As a result, even this approach to criminal justice had to be modified to account for fundamental differences between actors that caused the system to jerk along, and their facetiousness which defied any attempt to fine tuning. Similarly, and not unexpectedly, attempts to provide indicators of performance within this unusual and disparate system were also erratic.

As different research methodologies were applied to examine criminal justice issues, what occurred was not necessarily an integration of the disciplines that spawned a technique to address criminal justice system performance, but rather a random application of methodologies derived from the academic training of the particular investigator. Economists tended to view the problems of crime as rational choices made on the basis of relative values and amenable to the analyses of cost-benefits, cost-avoidance, or cost-effectiveness, with cost being defined in terms of dollars, sanctions or incentives (Andenaes, 1966:949-983; Ehrlich, 1972:259-276; Feeley, 1976:497-523; Gibbs and Erickson, 1973:534-551).

Social scientists, criminologists and sociologists alike, contributed the perspective of viewing the system components through their roles and functions, motivations, perceptions, organization and goals (Newman, 1974; Reiss, 1974; Tauber, 1964:718-729; Sellin and Wolfgang, 1964). Demography and statistical analysis gave focus to

criminal statistics (Beattie, 1971; Biderman, 1967; Blumstein and Larson, 1971:124-132; Jacoby, 1976; Vera Institute, 1977) and victimology arose as a new study area. Systems analysts contributed valuable methodologies for rationalizing the criminal justice system by viewing the operations of each of the component agencies or programs in the agencies through process flow modelling. The early works of Blumstein, Larson (1969: 199-232), Navarro, Taylor and Cohen (1968: 376-379) were revolutionary in this area and set the pace for most of the subsequent techniques developed to track caseflow from one decision point to another and simulate the process

Criminology, the traditional discipline, was temporarily caught in the backwash. Since it was relatively late in incorporating the systems analysis approach into its theoretical constructs, its theory and body of knowledge remained isolated from the practitioners of systems analysis. As a result, the late 60's and early 70's were noted for a proliferation of "reinventions of the wheel," or "discoveries" announced by other disciplines who had scant knowledge of extant criminological theory or research.

Organization and management analysis brought to criminal justice a new and sorely needed perspective (Eisenstein and Jacob, 1977; Blumberg, 1970; Blumstein, 1973:35-48). Organization, programs and procedures, as emphasized in the field of public administration, were introduced to a criminal justice system which had previously operated with little attention to management principles. The work of the National Center for Prosecution Management and National Center for Defense Management in the early 70's provided strong documentation of the need for introducing management techniques in both prosecutor and defender offices.

More recently the emphasis on policy and policy analysis has been expanded by the emerging interest of political scientists in criminal justice (Feeley, 1976:497-523, Cole, 1968). The results of some of their more recent work have brought attention to some of the important evaluation questions that criminal justice should address.

Ultimately, as the numerous approaches converged on the task of performing evaluative studies of various operating programs, evaluation arose as a discipline in itself--generating experts in methodology and subject matter and producing powerful tools aimed at measuring the criminal justice system, its operation and performance (Ostrum, 1973:474-493; Ostrum, 1974:691-699; Greenwood, 1972:275; Chaiken et al., 1977).

All of these disciplines have contributed to the richness of our understanding of criminal justice and its parts. Indeed, it is on these very building blocks that the foundation for the development of a theory of performance measurement can be constructed.

Performance measurement in the public sector and more specifically in the criminal justice system is a difficult and complex task. This is primarily because in government or public programs, one seldom finds a single clearly stated purpose or objective for the

activity being performed and, even more rarely, a single outcome or output that can be measured. Unlike its private counterpart, public programs cannot realistically use the convenient yardstick of the dollar to measure performance.

In the criminal justice system, the measurement issues that emerge are troublesome. They stem from the differing perceptions that people bring to the criminal justice system and from the diversity that is inherent in essentially local systems of justice. The separation between what the public perceives as the criminal justice system and what it operationally or functionally is, can be, at times, enormous. The sterotypical views and expectations of even the best-intentioned lay person often are at considerable variance with reality. Even practitioners in the system fall victim to misperceptions. Since the nature of criminal justice is both local and parochial, few actors are aware of the extent of diversity that abounds among them. The resulting confusion that it creates is highlighted when comparative analysis is attempted or the development of national standards proposed.

There is, in the first instance, a need to understand the character of the criminal justice system. The fact that the components of the so-called system are intermingled to such a great degree makes it difficult to separate out the effects of one part of the system from those of another. Goals and policy vary and may often conflict. The quality of the output of one component may drastically change the input requirements of the next. Functions performed by an agency in one jurisdiction may not be performed by the same agency in another jurisdiction. Even programs or procedures designed to accomplish a task in one jurisdiction may be precluded from use by another.

Clearly, major issues rise from these problems when one attempts to formulate the definition and objectives of a system of performance measurement. A useful theory of measurement must address the questions of what activities should be included for measurement; how they should be measured; and for what purpose. The task of measuring performance demands not only a knowledge of the process and its activities but also an identification of those variables that best describe the process and which can be interpreted in a sensible manner.

B. Scope of the Research

As a first step in developing a theory of performance measurement, it is necessary to define the scope of the study so that the examination of the relevant questions can be undertaken in a systematic and functionally-related order.

There are three basic levels of performance for which a measurement theory can be developed in the criminal justice system.

1. Individual performance, focuses on the individual--a particular prosecutor or public defender, for example--as the primary measurement unit and measures the quantity and quality of work he performs. It is an area of substantial interest to agency heads,

educationists, personnel and management specialists; but it is not the focus of this project.

2. Criminal justice system performance, focuses on the combined effects of the interactions of the various component parts of the criminal justice system--police, prosecution, defense, courts and corrections--on the delivery of criminal justice services to the community. This wider grouping is not a part of the study except to the extent that it, or any of its parts, needs to be considered as external forces affecting the performance of prosecution and/or public defense.

3. Agency performance, focuses on the operations, management and planning functions of an agency--a prosecutor's office, a court, a correctional institution, etc. It examines the aggregate responses and behavior of an agency as it delivers services to the public and provides support to the criminal justice system. This level is the focus of this study.

C. Establishing a Conceptual Approach

In defining an agency's activities, some basic principles and approaches that are especially suitable for prosecution or defense can be set forth. First, because these agencies operate within widely diverse environments, the description of their activities should be in terms of their functions. This means specifying and describing what agencies do without attempting to hold constant or control for the structure and strategies used by each jurisdiction. This functional description of agencies is compatible with the objective of defining the work or activities being performed. It offers a flexibility that allows movement from one jurisdiction to another and at the same time, provides a means for defining accountability.

This latter concept is critically important to performance measurement and is the basis for the second principle: that only those factors or activities over which the agency has control and for which it can be held accountable should be included in the measurement schema. This means that one task of the descriptive process is to sort out those functions and decisions which are not under agency control and exclude them from the measurement system. If, for example, the prosecutor does not review cases prior to their filing in the court system, or a public defender is not assigned a case until after arraignment, performance prior to these process stages cannot be attributed to those agencies. Moreover, performance measurement at subsequent stages must account for the fact that the agency did not exercise control over these preceding process steps. This is especially crucial if the lack of accountability ultimately affects the success of the office in meeting its goals.

Performance cannot be measured or evaluated unless there is a framework within which relative assessments can be made. To be consistent with the accountability principle--namely, that the agency be held accountable for only those functions under its control--the framework should be based on agency policy. Any agency, through the direction of its leadership, exerts control in the broadest context

through formation of policy. Policy is broadly defined as a course of action selected by the prosecution or defense to perform its duties. Policy, therefore, provides a general frame within which performance can be studied and assessed.

Developing performance measures that are grounded in policy is not an uncommon task. As Seckler-Hudson stated so aptly in 1948:

> The purpose of a policy is to provide a framework for effort. Without policy, or with an unclear policy, even the coordinator has no standard against which to measure results. For administration does not operate in a vacuum--it operates for something and toward something and that "something" must be made clear in terms of a policy that gives meaning to the systematized effort (Seckler-Hudson, 1948:4).

The policy approach proposed for use in this task is reliable and well-tested. Policy establishes the role and function of the prosecutor and public defender within the wider perspective of the criminal justice system. Performance measurement can be initiated by viewing policy as the means of specifying the particular goals and objectives of each agency as it operates within a larger, delivery service universe. These objectives are operationalized through organizational and procedural configurations that vary either by policy or by constraints imposed by the outside environment.[1]

The term policy, in the context in which it is being used here, is not synonymous with the concepts of "goals and objectives." Rather, policy is the overall plan of action selected to meet goals and objectives. As mentioned earlier, it is difficult to describe or evaluate the operations of a public agency because its goals are often difficult to quantify, and because an office may espouse several goals that may even be contradictory. For example, in theory, a public defender's office may have the goal of providing service to all indigent persons accused of crimes in its jurisdiction; it may also have a goal of having each case tried on its merits with each defendant having his day in court. The first goal minimizes the amount of time that could be spent per client; the latter demands that substantial time be spent on behalf of each client.

Policy, then, is an expression of the way in which the head of a public agency views his responsibilities and adopts a course of action to achieve them. This is a two-part statement; it includes the concepts of both perception and planning. Policy differences result from the different combinations that occur based on an agency head's perception

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[1]See, generally: R. A. Bauer and K. J. Gergen (eds.), The Study of Policy Formation (New York: The Free Press, 1968); Yehezkel Dror, Public Policy Reexamined (San Francisco: Chandler Publishing Company 1968); William B. Fairly and Frederick Mosteller, Statistics and Public Policy (Reading, Mass.: Addison-Wesley Publishing Company, 1977); D. J. Champion, The Sociology of Organizations (McGraw-Hill, 1975), pp. 24-59.

of his duties and the course of action he adopts to perform them. Research applying the policy model approach to prosecution has revealed that different policies exist in this area. Research by Jacoby (1977) and Jacoby and Mellon (1979) demonstrates that these policy types are limited in number. Early investigation of the literature on public defender systems suggests that a similar situation exists in that field although no specific study has been undertaken for that agency. The problem is, of course, to identify and define policy types that are distinguishable from one another and show how the agencies try to achieve their various goals within this context.

Since policy by definition requires the adoption of a course of action, it also requires a plan for maximizing agency resources so that there can be relative optimization of the operational goals. A prosecutor with a trial sufficiency policy (Jacoby, 1977:16-19) attempts to maximize the office's use of the adversary trial process; a system efficiency prosecutor attempts to dispose of cases in a manner that is least costly in time and resources. This is not to say that the former is not interested in efficiency, or that the latter does not conduct trials. It merely states that different values or priorities create different distributions of resources in an agency.

A policy approach to performance measurement recognizes the relationship between the structure of the agency and the individual character it acquires from a particular mixture of politics, personality, and local community environments. It distinguishes between those exogenous variables over which an agency has little or no control but to which it must be responsive; and those which are policy-related and for which the agency must be held accountable (Jacoby and Mellon 1979:Ch. I). It assumes that an external environment consisting of both social and criminal justice factors has a direct influence on the choice of policy selected by the agency. This is especially true given the locally-elected status of most prosecutors, the political accountability of many public defenders, and the discretionary power imbued in these agencies. It also assumes that the policy of the agency is transmitted through different forms of organizations and is operationalized by various programs and procedures. The outcomes reflect the decisions made, and these, to complete the cycle, ultimately influence the environment.

It has been helpful to graphically represent the relationship between the external environment within which policy is shaped and the implementing components of policy--the organization, programs, procedures and decisions. Figure I-1 shows this relationship.[1]

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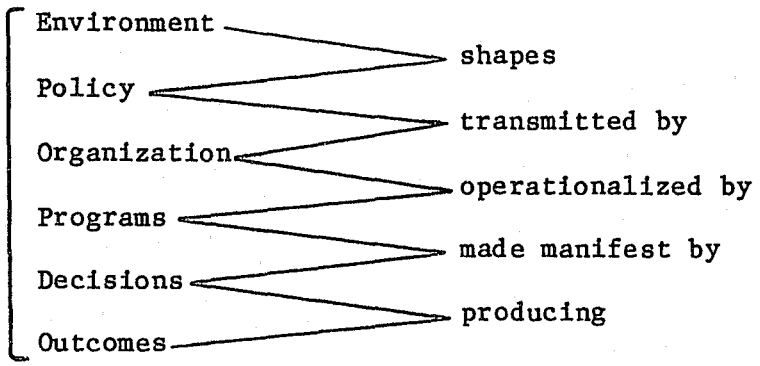
[1]For a more detailed discussion of this concept and its implications, see Policy Analysis for Prosecution, Chapter III.

FIGURE I-1

POLICY IN RELATION TO THE ENVIRONMENT AND ITS PARTS



The measurement task would be easier if it could be assumed that the policy of an organization is evident. But as Eulaw and March (1969:19) point out, often the policy of a given unit of government is not expressed or there seems to be no policy. At other times, a policy may be articulated, but the actual programs, organization or operational decisions do not seem to be compatible with it. Under these conditions it is difficult to identify the policy of the office. Yet, to measure it, it must be identified.

There are at least two ways of identifying policy--one deductive and one inductive. The first assumes that an articulated policy is in force, and then evaluates the types of programs, modes of organization, individual decisions and final outcomes of the system to determine whether those elements are consistent with the overriding goals of the articulated policy. The second, inductive approach assumes that there is no articulated policy (and at times there may not be one) and synthesizes an actual policy from an analysis of the outcomes, decisions, organizational modes and program choices. It is clear that for best results, the two approaches should be combined to determine whether or not the articulated policy is the same as the actual policy.

In summary, defining and describing the activities of prosecution and public defense within complex environments created by the dominance of local and diverse criminal justice systems is most easily accomplished using the following assumptions: (1) the examination and description focuses on the functions performed by the office; (2) only those functions under agency control are eligible candidates for inclusion in the performance measurement schema; and (3) the policy of the office as it is implemented through organizational and operational procedures and made manifest by decisions is the framework within which performance measurement is undertaken.

D. Defining and Describing Agency Outputs

The second major task in considering performance measurement for an agency involves defining the outputs of the agency that will be subjected to measurement; identifying the variables that affect the output and developing measures which can satisfy a variety of purposes. Since the functions of agencies within a policy environment are expressed by decisions, one can define one set of outputs as the outcomes of the decisionmaking processes in the office. A clearly identifiable result of the prosecutor's and defender's decisionmaking process is the disposition of the case. (Once disposed of, cases generally move beyond the agency's control.) Because this process also reflects the policy stance of the office, it provides a means of determining whether, or how well, the goals are being met.

Yehezkel Dror (Dror:1968), whose approach to policy analysis is specially suited to the complexities and subjective elements in the political process, points out that the primary measure of any policy decision is a definable systemic output. For the prosecutor and public defender, the systemic output can be defined as the disposition of cases. If a prosecutor's policy is one of limiting attention to only those cases which are "trial sufficient" or ready for trial, the primary measure for evaluating the success of this policy would be disposition-based. If a public defender's policy is one of rehabilitation and the diversion of as many clients as possible, the output measure still would be derived from the dispositions of the cases. Thus, for these two agencies, the output of both their functions can be defined as case dispositions even though their respective goals and expectations may vary widely and the measures derived differ accordingly.

The variables affecting dispositions may be differentiated into two types based on the way in which they characterize the various parts of the prosecutive and defense functions. Output variables affect the output of the decisionmaking process or the disposition of the case; management variables identify the management and organizational attributes that may significantly influence the process (or its parts) as it seeks to bring cases to disposition. Examples of management variables include resource allocation patterns, types of organizational structures, types of case assignment procedures and the amount of discretion allowed the assistants in the various process steps.

Output variables can be classified further into three classes as a result of the findings from a recent study on prosecutorial decisionmaking: (1) universals, or normative variables; (2) policy-sensitive variables; (3) process-oriented variables (Jacoby, Turner and Ratledge, 1979). The distinction between these three classes becomes important when comparative evaluations of performance are undertaken.

Universals, or normative variables are those which tend to remain stable among jurisdictions and are generally independent of the policy or structure of the criminal justice system. These are the variables that reflect cultural heritage or societal values. They tend to be ordering variables--ranking cases in order of priority for prosecution of defense or the seriousness of the crime or criminal

record. Their universality is based on the fact that most people in our society tend to agree on the same rank order of seriousness and importance. An example of a well-known universal variable is "seriousness of offense." This variable was scaled by Sellin and Wolfgang (1964) and has been replicated world-wide--producing similarly ordered ranks of the seriousness of offenses within the United States and even among other countries. Based on these studies, one can conclude that most persons generally agree about which crimes are the most serious and which are the most trivial. If there is disagreement it usually occurs as the middle range of seriousness is penetrated. Universal variables are very important because they explain cases dispositional relationships and behavior independent of the environment (and culture). Consequently, they are useful for a wide range of predictive and comparative studies.

Policy-sensitive variables also are important because they tend to operate consistently among offices or agencies having the same policy. Two examples of policy variables are the prosecutor's decision to dispose of cases by plea or trial and the strategies he uses to bring cases to disposition (especially with respect to reductions of charges). With the exception of incarceration, other sanctions or sentences sought reflect the priority or values of each agency and the availability of programs such as mediation, conditional release, etc. Policy-sensitive variables produce different distributional patterns under different policy environments but they remain relatively constant within homogeneous policy groups. Thus, their utility lies in assessing the consequences of policy choice on a comparative basis and providing performance measurement standards for homogeneous groups.

Finally, process variables describe the behavior of agencies at each of the process points producing dispositions. These generally can be classified as the intake, accusatory, trials and postconviction processes. Process-oriented variables require a working knowledge of the characteristics of the particular criminal justice system under study before they can be interpreted. These are the variables that are affected by state constitutional and legislative environments, the size and characteristics of the criminal justice system and the type of court process. They influence the level of the dispositions--whether felonies, misdemeanors or ordinance violations prescribed by the law and the location of the disposition in the process. As a result, they are not easily interpretable without a knowledge of the operations and procedures of individual jurisdictions. Hence, their value for comparative analysis is weak. On the other hand, their importance for internal agency performance measurement is very high since they describe in finer detail the behavior of the decisionmaking processes of the agency and its policy.

Although output variables can be easily specified, the interpretation of their behavior is more complex. This is because the output of the agencies will form some frequency distribution that is a function of the expectations of the policy being implemented, weighted by the effects of the process. Performance measures should, therefore, reflect expected policy output and be derived from a synthesis of the universal priorities, the policy-sensitive characteristics of the case

and the realities of the operating system. With this ideal measure, it would be feasible to compare the agency's actual output to expected output and measure the gap between them.

Management variables that define organization, staffing, budget allocations and other management and operational procedures are as important to the development of a performance measurement methodology as are output variables because they have the ability to change an expected outcome or expand the dimensions of performance measurement strategies. For example, the goals of efficiency are not served if the disposition that was negotiated on the day of trial could have been negotiated under different procedures at the preliminary hearing. Similarly, the effect of career criminal programs on increased conviction rates or longer sentences needs to be explained by staffing and caseload factors.

Measurement starts when the variables are combined into statements that describe relationships. Performance measurement focuses on these statements and their ability to assess the activity of an agency. This excludes from the scope of this study many other relationships that have their own legitimacy in other areas. The measures should be relevant to the objectives of the agency and the purposes of the particular assessment being made. Only in this way can selectivity be built into the study so that from the variety of relationships available, the proper ones are selected and used.

E. Designing Performance Measurements Models With a Utility Base

The third and last component of a theory for performance measurement is the identification of some of its primary uses and the development of measures and measurement concepts that are compatible with them. These tasks include three levels of concentration. The first level addresses the dimensions of performance measurement for a single agency or jurisdiction. Starting at this level is practical because it provides a building block from which knowledge and theory can be extended in the wider dimensions of comparative and predictive performance measurement.

Whether the techniques used are descriptive, comparative or predictive, the basic and primary purpose of measuring performance does not vary. It is evaluation. Ultimately, our goal is to be able to develop measurement strategies that will permit evaluation in two major functional areas: first, performance as it relates to the delivery of services; secondly, performance as it relates to the distributive properties of justice. Using these two assessments, discussions of issues focusing on public policy, public decisionmaking and public controls over discretionary functions can be more rational.

In discussing evaluation of agency performance, an internal evaluation of the agency must be distinguished from comparative assessment of the agency relative to some other group. Internal assessment and comparative assessment begin by looking at the same set of issues--delivery of services, cost-effectiveness and impacts--but they require entirely different approaches. For internal assessment,

the initial question is whether the results of the agency's performance meet its goals and objectives. A basic assumption is made here: that if the delivery of services is not in accord with the goals and objectives of the agency, t'en no matter how well delivered by some other standard, they are not well delivered by the agency's standard.

There are other approaches to evaluating agency performance that have been proposed, including suggestions that the agency be measured in relation to the goals and standards of individuals or groups external to the agency's functioning. For example, client satisfaction, public confidence or court assessments. While they may have some legitimacy elsewhere, for this task, such approaches are only confusing, complicated and militate against our ever completing the first building block of measuring internal performance based on agency output. Thus, the evaluation proposed is an assessment of how well services are provided according to the agency's standards with mechanisms under its control.

A second question raised for internal evaluation is whether the services are being provided in the most cost-effective way. This question has great importance because both the prosecutor and public defender are publicly funded agencies. Their funding is overwhelming local and they must compete for relatively scarce resources with other essential services, such as schools, highways, public health, sanitation and trash disposal. It is critical that agency performance be measured for cost-effectiveness so that decisionmakers are able to determine the need for either management improvement or alternative programs to reduce costs and improve the delivery of services.

The third question that needs attention is the extent to which the performance of the agency substantially affects other actors in the criminal justice system. The performance of the prosecutor and public defender would be incompletely described and evaluated if the assessment did not include consideration of the influence that these agencies have on other important groups--courts, police, corrections, victims, witnesses and the public. Where the performance of one agency necessarily and substantially has an impact on the operations of another agency in the system, these effects should be considered relevant to the overall measurement process. For example, although the disposition of the case has been conceptually defined as marking the end of the process for both the public defender and the prosecutor, the effects of those dispositions and other agency activity in the postconviction process may directly effect other actors. Certain dispositional patterns may effect court delay and backlog, change populations in correctional institutions or diversion programs, or impact on public attitudes and perceptions about the criminal justice system. However, if the effects cannot be directly attributed to the initiating agency but rather emerge as part of a combined effect, then the assessments should note this and the evaluation scheme should be adjusted accordingly.

This last point is particularly important if the evaluation is for planning purposes and will rely on predictive models. For these purposes, different requirements surface: measures should be capable of noting changes or trends, stable enough to allow for prediction, and, of

course, be interpretable. The powerful and efficient tools of system modeling and simulation produce strong requirements for these types of measures.

The natural tendency of many evaluation schemes is to compare one agency or program with another to determine "which is better." This is a legitimate and often necessary question if the evaluation is attempting to gauge the relative efficiencies of two or more types of delivery systems. But the risk of receiving inaccurate or unreliable answers is increased unless it is realized from the start that comparative evaluations require far more rigorous measurement strategies than internal performance evaluations. This is because agencies exist in different external environments and operate with different policies, goals and perceptions of their roles. These effects must be taken into account as measures and measurement strategies are adopted to do comparative analysis. This becomes particularly obvious when it is noted that those factors which are internally important to any one system have as yet to be specified in any great detail.

In addition to the different external environments that must considered for comparative assessments, the types of variables used to perform the comparisons must be accounted for. Process oriented variables are the weakest of all since they are directly influenced by the structure and characteristics of the local criminal justice system. Policy variables should be introduced to the comparative evaluation only after some attempt has been made to account for their effects. Part of this problem would be solved if it were possible to group prosecutors or public defenders by policy into homogeneous groups. Then the ability to measure differences due to performance or programs would be significantly increased. Until this level of expertise is reached, however, it is essential that notice be taken of all potential exogenous effects.

Finally, even if all these problems were overcome and all the measurement issues resolved, they would only set the base for evaluating the second aspect of an agency's performance--namely, the distributive properties of the justice being administered. Ideally, American justice operates on the Arisotelian concept of distributive justice, allocating reward in proportion to merit. This means, as Reiss (1974:693) notes, that equals should be treated equally and "Unequal treatment is inherently unjust or discriminatory." The goal of distributive justice is very important because it places the responsibility for public accountability squarely on the agencies performing these discretionary functions.

II. THE NEED FOR PERFORMANCE MEASURES

A. Introduction

Performance measurement systems should not be developed without reference to their application or use. In contrast to measuring individual performance, where the major issues are experience, competence and leadership, measuring the performance of agencies addresses a distinctly different set of issues. It includes the basic productivity of the agency, the efficiency and effectiveness of its operation, its performance within policy guidelines, the quality of its services, its effectiveness in meeting agency, criminal justice or social goals, its accountability to the public and the equity of its decisions. These issues give sharp focus to the measurement tasks facing agencies and show not only where measures are lacking but even more, where measurement approaches or concepts are as yet undeveloped.

This chapter will explore some major issues of concern to agencies. It will discuss some of the dimensions and problems inherent in these tasks and present some approaches that currently appear to be feasible given the state of the art.

B. Productivity

If there is a single basic measure of an agency's ability to deliver services, it has to be its productivity. Productivity sets the foundation for all other performance measurement activities. It is defined here simply as the ratio of output to manhours expended. These two components of productivity are derived from two different measures--volume and time. Volume may be described as the number and types of dispositions obtained for different types of cases. The characteristics of the cases disposed of at the different process steps produce branching ratios which connect one process step with the next. Defining output is a complex, but not impossible, measurement task. However, if it is to be relevant to the agency needs, the actual dispositional outcomes should be weighted by expected or preferred dispositions.

Time, which is most simply expressed as manhours, should distinguish between attorney time, investigator time and support staff time. Measuring manhours is a difficult task in the public sector not only because of traditional resistance to this activity, but also because it requires incorporating into the collection schema measures of the nature of the case, the type and seriousness of crime, its legal complexity and a multitude of other external and internal constraints. Thus, before manhours can be used for production indices, their relationship to the type of work being performed needs to be determined. This means the amount of hours expended on different types of cases has to be established before one can evaluate the quality of

productivity.

Although the development of measures for output and manhours has yet to be undertaken in any way related to the attributes of criminal case processing, this does not mean that measures are not used at all. Gross measures of productivity are common and have a fair degree of empirical reliability. They generally are expressed as ratios of workload to manpower. For example, the ratio of one assistant prosecutor for every hundred felonies processed by the office has served as a coarse indicator of attorney staff size since the early 1970's. (NCPM, 1972) Although never subjected to rigorous validation, it reappeared in the 1980 survey of urban prosecutors (Jacoby, Mellon, Smith, 1980). Despite its obvious limitations, it does provide a useful starting point for assessing staff strength.

Similar ratios are used by NLADA to set maximum caseload standards of 150 felonies per defender or 400 misdemeanors or 200 juvenile cases annually. (NLADA, 1973:73) The court, also uses a weighted caseload system (Administrative Office of the United States Courts, 1979). Analogously, the number of juvenile court attorneys to the number of petitions filed or the ratio of civil attorneys to the number of briefs filed can be established.

Although ratios may suffice as rough estimates of productivity, they are limited in their ability to act as evaluative or management tools because they do not reflect diversity in case processing procedures or differential levels of effort. They simply are not powerful enough to measure changes in efficiency or effectiveness.

Productivity should not be thought of as a single index if it is to be used to measure internal agency performance. It must be stratified by type of case, preferred outcomes, agency policy and other constraints. Defining what constitutes output and obtaining manhour estimates that meet these conditions are the first steps that need to be taken. Once these are accomplished, then productivity indices should be established to measure the ability of the public defender or prosecutor to deliver services.

Agency productivity measures are incomplete without some measure of the quality of the services provided. Quality may be defined in two ways: either, by the degree of excellence obtained in providing services, or, by its attributes of efficiency, effectiveness and equity.

1. Excellence. Standards of excellence should be set by agency heads since they are the ones ultimately responsible and accountable for the agency's policy and operations. For our purposes here, excellence can be defined as the attainment of the preferred disposition of a defendant (and/or case). By having standards for excellence set by policy leaders, (prosecutors or public defenders) then, the degree of excellence in an office can be measured as the difference between the levels of disposition desired and those actually obtained.

The major difficulty with measuring excellence as expressed by

preferred dispositions lies in the fact that neither a definition or preference exists nor boundaries to surround it. Although it may be possible for prosecutors or public defenders (or their delegated policy setters) to establish these by reviewing a sample of cases that have been disposed; determining whether they agree with the actual disposition, the strategies employed, the length of time to disposition and the sanctions that were ultimately imposed, it rarely happens.

Rating cases for a large enough sample could provide an indication of the degree to which the office is operating at the level of excellence that the head of the agency expects. With a proper statistical design, the factors that contribute to any degrading in the process could be identified.

The practical difficulties with this approach lie with the commitment (or availability) of the head of the agency to support such an effort, the availability of researchers to conduct such a study, and the means to keep it updated. Rating enough cases to obtain statistical reliability for the standards and to identify variations due to other constraints is time consuming. Even if it was accomplished for one point in time, its maintenance over time (with changes) would be unlikely without it being given priority emphasis.

The practical result is that it is the routine and acceptable levels of operation that are being monitored in an office on a daily basis through reviews of case dispositions. While, theoretically, that which is routine may also be excellent, this assumption cannot be made automatically. We have seen that the entire adjudication system operates about some norms, but their existence is made known more when the minimum acceptable levels are violated than when the levels of excellence are raised.

Given these practical considerations, it would appear the first step in defining standards of excellence would be to establish minimum acceptable levels of disposition so that a baseline can be set. Not only would such a product have operational utility (it can monitor deviations from the baseline); but eventually as predictive models gain greater explanatory power at the process level or for individual cases, they too can be adapted to set standards or guidelines for preferred levels of operation and decisionmaking.

2. Efficiency. More pragmatically, quality is usually defined in the terms of the efficiency or effectiveness of the office. Yet even these attributes are complicated by external influences exerted on the office that set bounds on the maximum efficiency possible. In an unreal world, the most efficient course for a prosecutor to follow is to accept as few cases as possible; for the defense counsel, to continue or plead each case as soon as possible; or for both systems, to eliminate resource and time consuming trials completely.

The reality is that is a mix of dispositional routes exist in any office and there is a basic core that cannot be changed. Some cases will be rejected for prosecution. Some cases will be plead out early and some cases will go through the entire adjudication process ending with a

trial by jury. The most one can do to increase efficiency is to change the boundaries about this case within reasonable limits. For example, if out of a hundred arrests, five cases are discharged by the police, twenty are declined by the prosecutor for prosecution, sixty ten are plead out or dismissed and five proceed to trials, changes can be introduced by tightening up or loosening the bounds on these percents.

Clearly, however, there is a limit to the amount of variation possible. The number of cases going to trial are constrained by both the characteristics of the case and court capacity. The percent of cases disposed of by plea reflect both prosecutorial and defender attitudes toward plea negotiation. The number of cases declined for prosecution is largely determined by their seriousness and evidentiary strength. It is simply not reasonable to increase the rejection rate from twenty cases to fifty cases or to decrease the number of trials from ten to one without complaint or conflict. Thus seeking marginal efficiencies in these systems may be achieved by changing the boundaries, but a deep penetration into the core of each of the different types should not be expected.

Similarly, the same reasonableness with respect to time must be expected. In some instances time is a necessary ally and supporter of quality or excellence. A study of intake procedures (Jacoby 1980) indicates that prosecution benefits most (i.e. produces the highest declination rates) when cases are brought over by detectives (who have the most information about the case) and the prosecutor has more than 24 hours within which to make the charging decision and file it in court. Finally, the entire premise of successful trial dispositions for either the public defender or prosecutor rest on having sufficient time for proper case preparation.

In principle, efficiencies in productivity (the ratio of output or case dispositions to manhours of effort) can be achieved either by increasing the volume of dispositions, which is generally done by reducing the backlog or delay in the system; or, (if there is no system delay) by reducing the number of manhours per case. Manhours may be reduced either by decreasing the time the case spends in the adjudication process or by realigning resources and procedures to decrease manhour effort expended on a case. From an agency perspective, the priority of a case, management procedures, and staff resources all effect the efficiency of the system.

The danger of pursuing efficiency as a goal is that it may jeopardize the quality of the output unbeknownst to the agency head. Stated in another way, the output may be changed so that it does not meet the agency's acceptable standards. For example, a substantial decrease in manhours may result in inadequate case preparation. Thus, it is important that the productivity ratios have the ability to measure the quality of the output and that limits be defined to note changes in it.

The important research question, therefore, is: when are dispositions not acceptable and what constitutes a degrading of services? For example, if a public defender has a caseload of 35 to 40

cases a month and this, through reductions in staff, is increased to 60 cases, what are the implications for case dispositions and their quality? Until we can define what is a "bad" disposition of a case and what is considered inadequate capacity to provide prosecutorial or defense services, these issues will continue to be controversial. The development of a system of weighted dispositions that can specify either preferred dispositions or minimum acceptable ones would be an essential first step before one seeks to measure changes in efficiency.

3. Cost effectiveness. Cost effectiveness is, of course, another way of measuring the quality of the delivery of services. Cost effectiveness may be defined as the state of producing the intended or desired effects with minimal costs. It is essentially the ratio of volume of output or dispositions to its costs. For agency measures, the basic cost of prosecution or defense functions needs to be established first. Once this is done, the costs or savings introduced by change can be measured. The basic assumption to be tested is that the same output behavior (dispositional patterns) can be obtained by other, less costly, procedures. Establishing a measurement system for this is fairly simple since prosecution and public defense costs are mostly due to personnel costs (manhours). Jacoby and Ratledge's (1976) paper on the feasibility of performing cost analysis in a court nexus sets forth in great detail the mechanics involved and shows that such a task is feasible and relatively straight forward.

It is important to remember, however, that efficiency and cost-effectiveness do not necessarily share the same set of goals. For example, the use of paralegals to prepare appellate briefs is less costly than using attorneys to do the same work even though it may increase the time per brief preparation. But, if the volume of work remains unchanged while the manhours increase, then along with cost reductions comes reductions in productivity as well. Under these conditions efficiency and cost effectiveness are incompatible. On the other hand, the assignment of experienced (i.e. higher paid) attorneys to preliminary hearings is both efficient and cost-effective. Not only are they capable of disposing of cases at that early point, but also the costs of moving those cases through subsequent parts of the process are avoided.

This latter example raises another point, namely, that of scope. Both attributes need to be defined in terms of the scope of their measured effects since interpretations may vary as the boundaries change. For example, with respect to the previous illustration, it could be argued that it is not cost-effective to use experienced attorneys at the preliminary hearing if the same work can be performed by less experienced personnel. Within this narrow area, the argument could be valid. But if more dispositions of acceptable quality could be obtained by the activity of more experienced personnel, then the high price paid at this point is offset by efficiencies and economies gained over the whole adjudication process.

The point is that cost effectiveness measures have different meanings relative to the universe to which they are compared. If they are calculated only for the process step from which they are derived

they may produce misleading results. Thus, agency effectiveness should be evaluated with respect to the entire function primarily because this introduces the concept of cost avoidance. As long as dispositional results are not changed when cost effective techniques are introduced, then the new procedures can be declared cost effective. If dispositional output is changed, however, then the changes introduced cannot be declared effective because the quality has changed. Indeed the resultant effects need to be evaluated instead for their conformance to office policy and goals.

C. Serviceability

The problems associated with insufficient funds, financial embarrassments and incurred liabilities raise the issue of discretionary versus mandated services and the concept of serviceability. In response to reduced revenues, local jurisdictions generally follow a pattern of first, cutbacks in discretionary services and then reductions in mandated ones. The definitional problems of what is a discretionary service as opposed to a mandated one and at what levels does one change into the other are critical to the concept of serviceability. The auditors in Multnomah county (Portland) Oregon (Lansing, 1977) have addressed this question with some success and the prosecuting attorney in Wayne County (Detroit), Michigan has appealed county ordered cutbacks through the courts. (Wayne County Prosecutor V. Wayne County Board of Commissioners, 93 Mich. App. 114 (1979).

The development of concern about what constitutes serviceability is based on the new wave of "cutback" management employed by appropriating authorities (usually county boards of commissioners or mayors). Sufficient funds must be provided to permit the prosecutor and public defender to perform constitutionally or statutorily mandated services. The question focuses on the level of these services. In its decision reversing the trial court's finding that the Wayne County board of Commissioners acted legally, the court defined a serviceable level of funding as "the minimum budgetary appropriation at which statutorily mandated functions can be fulfilled". (93 Mich. App. at 124.) It further stated that a serviceable level was not met when the failure to fund either (1) eliminated the function or (2) created an emergency that immediately threatened the existence of the function. It said that a function funded at a serviceable level will be carried out in a barely adequate manner, but it would be carried out. A function funded below a serviceable level, however, would, therefore, not be fulfilled as required by statute.

The major research and measurement questions that surround the concept of serviceability are: (1) What constitutes serviceability? Can it be defined? Can its component parts be identified? (2) How should serviceability be measured? What are the measures that should be used? (3) How do we find out when a function is not being fulfilled?

There are a number of methodological approaches that can be used to address these questions. Using a "relevant constituency" approach (Deutsch, 1979) it could be hypothesized that the standard of

serviceability can be defined and measured by the degree of satisfaction expressed by the people receiving the services or affected cy them. A preponderance of negative responses would indicate that the barely minimal level had been violated. Another approach could utilize cost analysis; assuming that the difference between the resources available to a prosecutor or public defender office (including dollars, personnel, space and equipment) and independently developed estimates of the time and costs needed to perform functions would indicate levels of serviceability; or a set of models could be developed to predict when a function was eliminated or when an emergency was created. This state could be defined as occurring when the equation between input and output is not balanced. In this sense, the agency would be defined as functioning when the output equals input plus some proportion of pending cases. When the number of pending cases equals or exceeds the actual output of the organization, then one would define the organization as unable to carry out its functions.

Adequate levels of serviceability should exist when two conditions are satisfied: (1) the agency can dispose of its input (i.e. pending cases do not equal or exceed dispositions); and (2) the dispositions are reasonable (i.e. they are at a minimally acceptable level). Conversely, one could define a function as providing inadequate services if the quantitative conditions are violated and there are no ways to dispose of all the cases. Independent of capacity, service is also inadequate if the distribution of the dispositions is not in accord with the urgency of the cases, and minimum acceptable standards.

To measure serviceability, therefore, both dimensions need specification. First, the capacity of the system and its given resources need to be determined to evaluate whether it can dispose of its workload. Secondly, the actual dispositions need to be tested against minimally acceptable expected dispositions. Based on current levels of research and knowledge, the development of serviceability measures appears conceptually feasible if the techniques of cost analysis are supplemented by case attribute analysis. Using cost analysis techniques, the average, median and variance of process times and costs could be determined. In the trial preparation area, for example, this means that costs would be developed for processing different types of the cases based upon their complexity. By tying the findings of the cost analysis into capacity and production frontiers, optimum production levels could be determined. Once these optimum levels of what the system is capable of processing are stated quantitatively, methods for monitoring differences between capacity and volume could be set in place.

The quality of the disposition (as reflected by its expected sanction) can be established from both past observations and special test instruments. Data collected from closed files would capture the independent variables having predictive influence on the sanction achieved. These could then be compared to expected or preferred dispositions obtained by test instruments like the standard case set (Jacoby, Mellon, Ratledge, Turner 1980). Clearly, not all the expected or preferred dispositions will be attained, even under the best of operating circumstances. However, ratios of success where actual dispositions were equal to expected dispositions may serve as a measure

for monitoring the extent of violations.

Serviceability is an issue that will remain important to contemporary society for a long time. As more and more remedies for inflation are sought through the use of cutback management, the development of measures and techniques for evaluating the functions of the prosecutor and public defender along with other public service agencies will become increasingly urgent.

D. Accountability

Who prosecutes the prosecutor? Who defends the defender? To whom are these agencies responsible? "The state or the public," responds the prosecutor, "My client", responds the defender. Social accountability cannot be excluded from this compendium of uses for performance measurement. It could be hypothesized that accountability exists in an agency when the preferences or expectations of the prosecutor or the public defender are comparable to those of their constituents.

Accountability implies an institutional delivery system. The police, prosecutor, court or corrections should somehow be capable of being compared to the expectations of a specific constituency. Thus, the accountability criterion should include a comparison of the decisions made by the agencies with those of the electorate. One way of accomplishing this is to format the decisions made by the prosecutor or defender in such a way that they are comprehensible to the average voter. This is not an idle supposition: note that attorneys and citizens have already been compared with respect to the seriousness of crimes and the criminality of prior record. Such comparisons are thus feasible and indeed these comparisons have demonstrated that citizens and prosecutors hold highly comparable views at least on these dimensions. (Sellin and Wolfgang, 1964; Turner and Ratledge, 1980) Such uniformity should not be expected with respect to the evidentiary strength of the case or its trial strategy (e.g. of its likelihood of being settled by a plea). However, if in the long run, differentials exist in sanctions (particularly incarceration) then one should question whether the agency reflects the publics values and expectations.

It should be possible to measure the extent of agreement between prosecution, public defender and the public with respect to (1) the urgency of cases for agency attention and (2) the sanctions to be imposed with respect to the defendant's freedom, curtailed liberty and/or incarceration. These two measures should satisfy the issue of agency accountability. The state of the art is such today that it should be possible, in a single jurisdiction, to administer a test instrument composed of a standard set of cases uniformly distributed over a range of seriousness of the offense and seriousness of defender's criminality (the legal evidentiary strength factors being held constant) to the prosecution, the public defender and the electorate (stratified by socio-economic status). The results of their preferences concerning priority for formal adjudication and the type of sanction to be imposed would permit analysis of agreement on at least three levels; (1) a comparison of the policy preferences of the agency leader with those of

his staff; (2) an assessment of the amount of internal agreement among the staff which could be used as baseline for setting the level of agreement with others tested; and (3) a comparison of the agency's levels to the public responses. The results of these comparisons should be analyzed subsequently to determine whether there are measures or standards that can be developed into an accountability index.

Accountability is an issue rarely raised and never systematically pursued with respect to agency performance. Yet, now that tools and techniques exist that permit measurement, it should be included in performance research. Until now, the only measures of accountability exist, for elected officials, at the polls; and for appointed officials with the appointing authority. Both the general public's evaluation and the client's appraisal of services are based on case-by-case impressions coupled with imperfect knowledge of the system. If society is to demand accountability from these public agencies, then rigorous and systematic measurement techniques clearly need to be developed and implemented.

E. Equity

Finally, the underlying issue facing the delivery of criminal justice services is that of equity. This issue is not only critical to the evaluation of the performance of the public defender and the prosecution components of the criminal justice system but it is equally important to all the remaining parts of the system. Equity can be defined from a decisionmaking perspective as similar decisions being made about similar cases to produce the same or similar dispositional outcomes. As the definition indicates, measurement problems exist for each of the three conditions requiring similarity and for their overall satisfactions.

The primary research issue that must be resolved before any attempts to measure equity can be made, is to define what constitutes similarity and when does dissimilarity exist? It is posited here that equity exists when decisionmakers agree on the adjudicative merit of cases and their expected sanctions. This definition does not evaluate the merit of the decisions (one may argue that they are too "hard" or too "soft"); it merely states that they are being made on an equitable basis.

Not all decisions have to be tested for equity; only those that are crucial to dispositions. These tests should show that the decisions are based on such legitimate factors as the seriousness of the offense, the legal evidentiary strength of the case and the criminality of the defendant. If decisions are based on quasi-legitimate factors, such as age, race and sex, (factors that the defendant cannot change) then the decisionmaking system could be defined as inequitable. Additionally, it could be stated that equity does not exist if similar cases are treated with different degrees of urgency, thereby producing different sanctions.

Thus, one of the first tests for equity in decisionmaking is

to determine the extent to which decisions can be predicted by objective measures of seriousness and evidentiary strength. If the residual variance is small and uncorrelated with quasi-legitimate variables, then the decision process could be deemed statistically equitable. The standard case set has demonstrated that a high degree of explanatory power is achieved based on the three factors mentioned above. Enough so that a statistical model (RDR) was developed to predict specific decisions about specific criminal cases (Jacoby, Mellon, Ratledge and Turner, 1980)

Establishing case similarity has always been difficult in the past. However, the state of the art is such today that it now appears to be feasible. Utilizing the results of the above mentioned research, it is now possible to group cases that are similar in priority. seriousness and evidentiary strength, With these groups, one can then test for consistency with the policy preferences of the agency head and uniformity with respect to dispositions and sanctions. The predictive, Recommended Dispositional Routing (RDR) model derived from tests administered to nine prosecutors's offices. It predicts the expected sanction for individual criminal cases. However to date, RDR has not been validated by measuring the extent to which predicted sanctions vary from the actual ones. Clearly this is the next step that should be taken.

In addition, more work needs to be done on developing scales that will measure the equivalency of sanctions. For example, does a jail term of 30 days with a $5,000 fine have the same or equivalent severity level as a jail term of 60 days and no fine? If not, which is more severe and by how much? It is important that if equity is to be measured it should be by the actual sanctions imposed on the defendant relative to expected sanctions. Only secondarily should attention be given to how they were obtained (e.g. plea bargain vs. jury trial).

Quality and equity in our discretionary system of justice form the yardstick against which all decisions must eventually be measured. Equity is the prime issue because it is affected by the wide-ranging discretion exercised by the various parts of the criminal justice system. Only by placing these discretionary decisions under measurement control, can the performance of the prosecutor, public defender and other criminal justice agencies really be evaluated.

III. ADOPTING A FUNCTIONAL APPROACH FOR PERFORMANCE MEASUREMENT

A. Introduction

As the first chapter indicated, developing a uniform approach to measure diverse systems like prosecution or public defense is a complex task. There is no standard against which to place the performance of an agency, no uniform set of goals on which all can agree and no single structure or form that can be subjected to measurement. The diversity in the role and structure of both prosecution and public defense is due in part to the different environments within which they exist and in part to differences in policy choice.

Under these circumstances, analytical techniques need to be adopted that will take into consideration the variations that abound among the local settings. One technique that overcomes the limitations imposed by diversity is the use of a measurement approach that is based on the functions performed by the agencies rather than the structures or organizations that carry them out. Within these functional areas, the results of the decisionmaking processes in the agencies can be measured. The overriding justification for adopting this approach instead of others lies in its flexibility.

Functional analysis examines the various activities undertaken to process criminal cases. It permits the incorporation of a number of different perspectives into its approach. One focus can be on the system activities associated with processing the defendant--such as identification, arrest, interrogation, accusation, prosecution, defense, adjudication and punishment; or the process can be viewed from a witness or victim perspective--examining such activities as notification, transportation, motivation, payment, testimony and cross-examination. Independent of the perspective adopted, the value of the functional approach is twofold. It enables the evaluator to isolate the decisionmaking functions needed to perform a task; and it, thereby, creates a checklist of these functions so that in comparing different agencies or examining different jurisdictions, the requisite activities can be located and attributed to those agents who carry them out.

In criminal case processing, the functional approach identifies the agents who bring the initial charges, decide to accept the complaint as a criminal matter, prosecute, defend, adjudicate and sentence the defendant. The functions are relatively invariant--how they are performed is variable. This type of analysis gives the researcher freedom to move from one environment to another and to have a foundation on which a comparison of roles and structural differences can be conducted. It is an approach well-suited to meeting the more rigorous constraints imposed on comparative research and evaluation as well as examining performance on an interjurisdictional level.

This chapter will define the functional areas of prosecution and

public defense decisionmaking systems; discuss the more salient issues involved in using this approach and classify the functions by type as a foundation for measurement and model building. In doing this, the power of functional analysis will be noted as it resolves some of the problems created by diversity and supports the development of a classification system. The latter is needed to explain what are logical responses and to note when inconsistencies occur which point to either incomplete knowledge or defects in agency performance. The conclusions reached are that an agency's performance is constrained by: (1) the type of functional activity present in its system; and (2) the role it assumes in the process.

Criminal case processing can be divided into distinctly different steps, each encompassing different activities and having a sequential effect on the others. For prosecution, the process steps begin with intake and move to accusatory, trials and postconviction areas. For defense, the penetration of the criminal justice system may be earlier, starting at a pre-arrest stage when the police decide to detain the suspect for interrogation or a line-up. This step rarely has prosecutorial involvement. It is only after the arrest stage, that the two processing systems become the same.

B. The Effects of Transfer

One of the first observations that should be made in conducting a functional analysis of the various process steps in which prosecution and public defense are involved is that not all of the steps are performed all of the time by either the prosecutor or public defender. Some steps or activities may be precluded because of constitutional mandate, state law or court rule. Others may be transferred to other agencies by delegation of authority. Such situations may occur at the intake process (where charges are filed by the police without prosecutorial review or defense counsel are not yet appointed); at the accusatory state (where grand jury indictments rarely involve the defendant or defense counsel) and in the postconviction process, the most variable of all the stages. The important point is that participation in any one process step may not be a matter of choice for many prosecution or defender systems.

Most notable for its variability is the postconviction area. Whether the prosecutor or public defender has appellate jurisdiction is a function well recognized for its changing status from one state to another. But there are other activities in this process step that are equally important though not uniformly available. For example, in Alabama, the names of applicants for pardons are not forwarded to the prosecutors. As a result, although prosecutors might favor the procedure used by the New Orleans prosecutor (whereby routine review and evaluation of applications for parole and pardon may result in prosecutorial opposition), in Alabama this activity is simply precluded.

Sometimes non-participation in a process step is more voluntary in nature. In these circumstances, the function is available to either the prosecutor or the public defender but the authority to perform it

has been transferred elsewhere. Generally, this transfer is a result of either external constraints, tradition, court rule or the personal perception of the agency heads with respect to their authority, roles and responsibilities. The intake phase of prosecution is most susceptible to this phenomenon. In Buffalo, New York, for example, the police arrest the defendant, take him before the committing magistrate where his bond is set, the complaint filed, defense counsel appointed, if necessary, and the case set for preliminary hearing. It is only prior to the preliminary hearing that the prosecutor is made aware of the case and the files are sent to him. Thus, the preliminary hearing provides the first opportunity for case review and witness interviews. The result is to place the prosecutor in a reactive position since he does not exercise the charging function which controls the intake into the system. This contrasts sharply with the prosecuting attorney's offices in Michigan where state law mandates that no charge or warrant shall issue without prosecutorial approval.

It is sometimes difficult to change the external conditions that create a transfer situation. For example, in Buffalo, police arrestees are processed at the precinct level, not at a centrally located facility. This fragmentation coupled with a strong tradition of police filing charges has supported the transfer condition. In other cities, such as Philadelphia, attempts have been made to overcome the absence of centralized booking. In one experiment, assistant prosecutors were stationed at the police precincts. But the problems resulting from irregularly occurring work, isolation from the main office and the attorney's subsequent role identification with the police function, all worked against its success. The experiment was soon abandoned, to be supplanted by another using closed circuit television to link the numerous precincts with the prosecutor's office. However, as long as arrests are booked at scattered precincts, the opportunity for the prosecutor to intervene before the charge is filed in court is severely diminished.

In some jurisdictions, functions have been more voluntarily transferred. For example, Dade County, Florida had a tradition of case review occurring only after a committing magistrate's hearing had been held. It was only with the election of a new State's Attorney and the implementation of new procedures that limited control was wrested from the court. Tradition is a strong factor in the constancy of justice systems.

Postconviction process steps are also susceptible to transfer in the prosecution and defense systems. In many jurisdictions, it is not unusual to find that the involvement of either the prosecutor or the public defender stops with the disposition of the case. In some jurisdictions such as in Wayne County, Michigan, where extensive control is exercised over the intake and trials stages, little involvement is found in the postconviction activities of presentence investigation, sentence recommendation, or opposition to parole and pardon applications. On the other hand, in King County (Seattle), Washington, the prosecutor employs a presentence investigator to present the state's recommendations to the sentencing judge. In Boulder County, Colorado the postconviction activity is extensive because the prosecutor actively

assists in the expungement process by completing the necessary court papers and sending notifications to law enforcement agencies. The same forces apply to the public defender as well. Depending upon the jurisdiction, he may or may not participate in the postconviction process. This is especially obvious in those jurisdictions where state appellate services exist separately from the local public defender's office.

Of all the process steps and the varying degrees of agency participation that may characterize them, only one is not subject to transfer--the trial stage. At this point, both prosecution and defense must participate. (Even if the defendant acts as his own counsel, a defense function is present.) Less susceptible to transfer is the accusatory process, although the type of procedure produces different degrees of control. For example, where a redundant process exists, arrest to preliminary hearing to bindover for grand jury indictment, the ability of the defense to manipulate the system through waivers is greatly enhanced; far more so than if only a grand jury indictment system were available. Bifurcated systems also create transfer conditions. For example, in Franklin County (Columbus), Ohio there are two independent and overlapping prosecutorial systems. The Columbus city attorney's office has jurisdiction over felonies through a preliminary hearing for bindover to the grand jury, which is under the purview of the county prosecuting attorney's office.

The effects of transfer can be seen most clearly in the limited control an agency has over its work. Early control is beneficial. The later it occurs, the less powerful and more reactive is the agency's influence and role. Participation in the postconviction process enables agencies to extend their influence into areas traditionally not under their control. The principal result is to impose the prosecutor's and defender's policy on the sentencing function of the court.

Although the general effects of transfer are a loss of control, power and influence, and the adoption of a reactive "catch up" style of operation in the next process step, there are, of course, exceptions. If power and control can be regained in the subsequent step, then the loss created by the transfer in the previous step may be minimized. In Norfolk, Virginia, the Commonwealth Attorney operates with a severe manpower shortage. (Only 15 attorneys process 4,500 felonies annually.) The shortage of manpower has resulted in the intake and charging function being transferred to the police agencies. It is not until the case has been scheduled for a limited, pro forma probable cause hearing that the office takes jurisdiction. The office compensates for an inability to reject trivial cases before they enter the system through the use of the grand jury. The grand jury meets only once a month. On that day, all cases to be presented have been reviewed, contact with defense counsel has generally occurred, and the intent of the defendant to either plea or go to trial often is already known. With up to 30 days lead time, and the authority to set the trial docket, the prosecutor knows with a fair degree of certainty the court's schedule and his trial caseload on a monthly basis. Likewise, this is known by defense counsel. As a result the court disposes of cases within 60 days and operates without a backlog.

The key ingredients in this situation are time and control. With enough lead time and with docket control, the prosecutor is able to avoid staffing an intake unit, and establish an efficient system capable of operation by few attorneys.

Most jurisdictions operating under similar transfer circumstances are not as fortunate. As a result, the accusatory process takes on the added role of charge review as well as accusation. Some cases that never should have entered the system are disposed of at the preliminary hearing or are remanded to the lower court after grand jury presentations. Instead of fewer than one percent of the cases being "no billed" by a grand jury, the proportion can increase ten fold when these vehicles are used for screening. Figure III-1 taken from Policy and Prosecution shows the extent of diversity that exists among accusatory forms and Figure III-2 shows these effects for 79 jurisdictions. For the 12 jurisdictions that did not review cases before filing, most of the adjustments were made at first appearance. Thirty six percent of the caseload was disposed of before trial and twenty two percent of these dispositions occurred at the first appearance for bond setting and appointment of counsel. Loss of control in the early stage results in having cases of questionable merit in the system; reduces the discretionary authority of the prosecutor to set the charge and, concomitantly, increase changes to the original charges; requires additional work in other process steps; and, generally, diverts some prosecutorial effort to correction, modification and disposition rather than trial preparation. The key distinction between having an intake function or not is that without screening the decision is largely restricted as to what charges to seek; not whether to charge.

A loss of control over intake has serious effects on the public defender as well. Instead of representing defendants in cases that have prosecutorial merit, the defender must also share the increased workload. Motions for dismissal of cases that either should not have been allowed in the system or should have been prosecuted at a lower level or on a different charge involve time, work and often unnecessary expense. It is clear that the later the penetration into the system, the more the defender has to work in order to effectively represent the client.

To summarize, the first step in using a functionally analytic approach is to determine whether all process steps are performed by the agency. If not, it is important to note whether this is due to some constitutional or statutory mandate or whether the transfer has been effectuated by tradition or perception. (This distinction becomes important when change is considered). The effect of transfer is to debilitate agency control over the subsequent process steps. When control over intake is missing, the agency is less capable of assuming a proactive stance. If early penetration of the system is prohibited, then both prosecution and defense are more dependent on the results of the activities of the police and courts and are more likely to be dominated by their policy decisions.

FIGURE III-1

PERCENT DISTRIBUTION OF JURISDICTIONS BY TYPE OF ACCUSATORY PROCESS MOST OFTEN USED. (94 Jurisdictions)

Type of Accusatory Process	Percent Usage
1. Arrest to grand jury indictment	16
2. Arrest to preliminary hearing for bill of information	34
3. Arrest to preliminary hearing for bindover to grand jury	17
4. Arrest to direct filing of information	27

Source: Survey of Prosecutors. Jefferson Institute for Justice Studies

FIGURE III-2

PERCENT DISTRIBUTION OF CASES DISPOSED PRETRIAL BY TYPE OF ACCUSATORY PROCESS MOST OFTEN USED (79 Jurisdictions)

Type of Accusatory Process	Percent Disposed Pretrial
1. Arrest to grand jury with no case review	36
2. Arrest to grand jury after after case review	44
3. Arrest to preliminary hearing	46
4. Arrest to direct filing of information	22

C. Participation in the Process

The participation of either prosecution or defense in a functional area introduces a new set of considerations. The role and influence each exerts on the decisionmaking process becomes important. Jacoby and Mellon (1979) have identified various types of decisionmaking systems that produce different consequences. Although the work cited below refers to prosecution, an analogy can be drawn to the defender system.

1. Types of Intake and Charging Policies. In Policy and Prosecution (Jacoby, Mellon and Smith 1980) clearly discernible models of prosecutorial intake and the charging policies were described. The typology used to classify one type of intake function from another included three divisions. The transfer function (already discussed), the unit model and the office model.

In the unit model, authority for charging decisions is delegated to any attorney in the office. The consequence of this type of delegation is to establish each assistant as an individual policymaking unit. The opportunity to establish an office policy is diminished with this type of decentralized decisionmaking and organizational structure. Discretion, on the other hand, is expanded since each assistant is permitted to make his own decisions about bringing cases to disposition.

Within the office model, Jacoby (1976) identified four charging policies that had definite implications for resource allocations and controls on discretion. The policies were called legal sufficiency, system efficiency, trial sufficiency and defendant rehabilitation. The minimal legal sufficiency policy rejects cases only if they fail to meet the standard of legal sufficiency. The effect is to admit the largest proportion of cases into the justice system. (In some respects there is little difference between this model and that of transfer.) The consequences of a legal sufficiency policy may be seen in the organizational response that places great emphasis on obtaining a high volume of dispositions. To achieve this, the discretionary decisions of the attorneys are loosely controlled and plea negotiation is a preferred dispositional vehicle.

The system efficiency policy introduces time into the dispositional mode. Each case is examined at intake for its ability to be disposed of as quickly in the process as possible. The quality of the case and its potential for early disposition are important elements in the charging process. The allocation of staff resources reflects this policy. Experienced attorneys handle the intake function to examine cases in detail and anticipate, through the charging decisions, their proper and timely disposition. They may even use this stage to bottom line the disposition to be sought. Plea negotiation and diversion are two preferred dispositional strategies. Within expected outcome levels, discretion is also permitted. The felony trial process is reserved, depending on office policy, for trying either the evidentiarily marginal cases or the strong cases. In this model, the experienced assistants are given full discretion in disposing of cases through plea negotiation, dismissal or recommendation for diversionary

treatment programs.

The trial sufficiency model uses the intake function to examine each case for its ability to be sustained at trial. Its basic assumption is that if a case is accepted for prosecution, it should be charged at its appropriate level, capable of being sustained by trial if it proceeds to that point. As a consequence, the intake process should be handled by experienced trial assistants and supported by case investigation work. The latter is essential if this "no change" charging policy is to be followed. To be consistent, the subsequent process steps have to be structured so that very little discretion is allowed the assistants. Additionally, this type of charging policy requires the existence of tight management information, feedback controls and mechanisms. In contrast to the other policies, where dismissals and plea negotiation are legitimate and often preferred means for case disposition, the trial sufficiency policy minimizes the use of these strategies. If a case is dismissed at the preliminary hearing, for example, because of insufficient evidence, the judgement of the intake assistant should be questioned. This would not be the case under a legal sufficiency policy since with scant review, dismissals are used as a vehicle for disposing of those cases that never should have entered the system.

The analogy to the defense system is also made clear even though research has not been directed to this system as intensively as to prosecution. But, it is logical to assume the same type of responses engendered by a lack of early representation at the arrest level, a lack of control over caseload, and the existence of a series of defender policies ranging from client satisfaction to system efficiency. It can be argued with substantial justification that early penetration by both the prosecutor and the defender provides for increased case control, more case preparation time and dispositional results in line with the agency's expectations.

The important point made by these different charging policies is that dispositions cannot be interpreted or used to evaluate performance unless the policy of the office is specified. This is equally applicable to the accusatory process because it is the immediate recipient of intake procedures and the charging policies of the office. For example, in some jurisdictions, the fact that the case has survived a preliminary hearing for probable cause and was not dismissed, is interpreted by the office as a measure of success because the minimal charging requirements of legal sufficiency and probable cause have been substantiated. In another jurisdiction, where the intake and charging function has been transferred to another agency, dismissals at preliminary hearings are regarded as legitimate means for disposing of trivial cases or those of questionable prosecutorial merit. In another jurisdiction, however, where charges are expected to remain stable, the loss of a case by a dismissal is an indicator of failure and a measure of poor performance by the preceding process step--namely, intake.

The different policies that have been identified by previous research clearly show that it is important to know the goals of the office before performance measures can be interpreted. Drawing from the

report Policy Analysis for Prosecution, Figure III-3 presents the offices studied in that research effort and distributes them according to these policy types.

FIGURE III-3

DISTRIBUTION OF SITES BY CHARGING POLICIES, 1978

Type	Site
Transfer	Dade County (Miami), Florida Norfolk, Virginia
Unit	Salt Lake City, Utah Lake County (Gary), Indiana
Office:	
Legal Sufficiency	Wayne County (Detroit), Michigan King County (Seattle), Washington San Diego County, California
System Efficiency	Kings County (Brooklyn), New York
Defendant Rehabilitation	Boulder, Colorado
Trial Sufficiency	Orleans Parish (New Orleans), Louisiana

SOURCE: Policy Analysis for Prosecution. J. Jacoby and L. Mellon, BSSR, 1979, p. 204.

2. Types of Trial Processes. Although the intake process step is most important one because of its gate keeping role, the trial process step is the one that spotlights organization, trial strategies and discretionary controls. This is the most work intensive part of the adjudication system and the one that ultimately disposes of the most serious cases. Cases that survive the accusatory phase are arraigned, prepared for trial, investigated, negotiated and finally, disposed. This process step is constrained by two important factors: the capacity of the court, and the docketing procedures employed.

The trial capacity of the court imposes realistic limits on the number of cases that can be disposed of by plea or trial. The mix may vary among jurisdictions--some being more trial oriented than others--but the limits still exist. Thus the trials process step must adapt to both capacity and policy. Research on the integration of these two issues has yet to be undertaken but empirical observation has identified some factors that appear to influence the operations and performance of the agencies in this dispositional process step.

The organizational structure of the trial phase is first, influenced by the court's docketing system and then, modified to meet prosecutorial policy. Both prosecution and defense are subject to the same influences.

Two types of organizational models reflect these docketing systems. The first and most traditional is the assembly line, horizontal, process or zone model. It usually operates in conjunction with a master calendar assignment system. Assistant public defenders or prosecutors are assigned to courtrooms--each of which handles different process steps. For example, in the lower court there may be bond settings, preliminary hearings and misdemeanor trials. In the felony court there may be arraignment court, motions and pretrial conference parts and finally, trial courts. In some jurisdictions, such as San Diego and Cook County (Chicago), the assignment of assistant prosecutors to individual cases is virtually impossible because of the size of the caseload and the geographic dispersion of the courts. In some master calendar assignment court systems, cases may also be assigned to a trial division after arraignment. Although the case remains in this organizational unit, its assignment varies according to available personnel and scheduled hearings.

This organizational model offers an agency flexibility in processing case flow since it allows staffing into those areas that have the greatest amount of work, either in volume or complexity. It presents problems to the defender, however, since it opposes the concept of an attorney-client relationship. In addition, the master calendar assignment fosters fragmentation and duplication of effort. Continuity through adjudication is difficult to maintain in these circumstances.

The second organizational model is the trial team which is composed of one or more attorneys. Here, cases are assigned to a courtroom or judge for processing. The judge usually maintains his own individual docket, scheduling the case flow according to his availability. In response to this docketing system, the organization of

both offices revolves around a trial team concept where one or more assistants are assigned to each of the courts and prepare the cases coming into that court. The assignment of attorneys to a courtroom is tantamount to assigning them an individual caseload. It gives them the freedom to do all phases of prosecution or defense except determining the critical charge and, perhaps, the bottom line plea. There are attractive advantages to this organizational model. It provides job ladders for younger attorneys--letting them handle cases from the beginning of the process through the end, giving them an opportunity to move from simple to more complex cases. This model is particularly well suited to the defense concept of individual client representation. Its weakness lies in the difficulty it has in establishing uniform procedures and decisions among teams or courtrooms. Without a strong centralized supervisory and management force in the office, there maybe a tendency for the trial teams to operate independent of office policy. When this occurs, the unit organization model is approached, since each assistant has policy and discretionary control over his caseload.

The second variable of importance to the trial stage is the extent to which the use of certain dispositional strategies are permitted and the amount of control placed on the discretionary decision powers of the attorneys. In some jurisdictions, assistants have almost unfettered discretion to negotiate guilty pleas and nolle or dismiss cases. In other instances, a separate office unit (either at intake or preliminary hearing) determines both the initial and bottomline charges. Still other jurisdictions formalize the process at the trial level through the use of pretrial conferences and cut-off dates after which no reduced pleas are accepted. The existence of review and approval procedures at the trial level also indicates the expectations of the office with regard to dispositions.

Jacoby (1976) and Jacoby and Mellon (1979) showed that some dispositional strategies are policy-dependent and others are not. For example, the use of plea negotiation as a primary dispositional vehicle is consistent with the policies of legal sufficiency and system efficiency. It is not consistent with a trial sufficiency model that does not encourage changes in charges or the level of charges.

Dismissals or nolles (the terms are used interchangeably here) are used sometimes in conjunction with plea bargaining or to eliminate defective cases or to obtain dispositions in other pending cases. In Brooklyn, New York, for example, an adjournment in contemplation of dismissal (ACD) is a technique employed to dispose of those cases that lack prosecutorial merit or are deemed too trivial to be processed by the formal justice system. If the defendant is not rearrested within a specified time period (usually 3 months), the case is dismissed. In Detroit, where Michigan law bans consecutive sentencing, once a conviction has been obtained on one offense, other cases carrying the same or lesser sanctions are dismissed.

The extent to which the discretionary actions involved in plea negotiation, dismissals and discovery are allowed to operate without supervision, review or approval procedures is a clear indication of differences between agencies. The amount of discretionary control is

closely tied to whether the office falls into the unit model, at one extreme, or an office model pursuing trial sufficiency, at the other. In New Orleans, Los Angeles and Ventura, California, for example, discretionary actions with respect to changing the original charge are tightly controlled. Dismissals in New Orleans require the approval of the intake (charging) assistant and reductions in the charge require the approval of the chief of criminal trials or the first assistant. In other jurisdictions, such as Kansas City, Missouri, the discretion is qualified by the experience of the assistant. Offers are generally made without prior approval by the more experienced attorneys.

Experience and policy work hand in hand to set the limits of discretionary action. This is especially important in the trial process and it can produce some interesting, but consistent reactions. To illustrate, in New Orleans where the policy is to go forward with the original charge, the intake division is staffed by the most experienced trial attorneys in the office and supported by investigators. The trials division, on the other hand, is staffed by the least experienced attorneys under the supervision of two experienced co-chiefs. Since little discretion is needed or allowed at the trial stage, the process step can be used as the training ground for the newer assistants. Discretionary freedom, as a function of experience and office policy, is a sensitive indicator of different agency performance patterns.

In summary, the major points that have been presented in this examination of agency performance follow: First, it is necessary to determine whether the agency performs all the functions that might legitimately fall under its authority or whether some of these have been either precluded or transferred to others. Since there is such wide variation in practices and procedures, it is necessary to make this examination at the process step level.

Once this is determined, it is next important to describe the structure and activities for each of the process steps. The results of studies at ten prosecutor's offices noted here illustrate some of the variation that exists in each of the process steps and the need to devise a conceptual system that can incorporate these differences into a design capable of being subjected to measurement. Developing classification systems that can support the requirements of performance measurement is an essential step.

Finally, the discretionary decisions and strategies available for use should be examined and evaluated in conjunction with the policy stance of the agency. Since discretion is primarily policy-dependent, any evaluation of the performance of the agency as reflected by its dispositions must be based on a knowledge of what the agency is attempting and how it is using its discretionary powers to achieve it.

IV. THE DYNAMICS OF FUNCTIONAL ANALYSIS

A. Introduction

The almost incomprehensible diversity in the form, structure, procedures and policies of both the public defender and prosecutor systems can be made more orderly if their styles of operation can be classified by the different patterns of dispositional responses they produce. There are limitations to this approach, however. This is because it is not possible to interpret the behavior of an agency unless its policy is known. For example, the rate of pleas to reduced charges may indicate either efficiency or incorrect charging decisions. The high rates in Brooklyn or Kansas City (two efficiency oriented offices) are acceptable because they are the result of a uniform application of rules and guidelines. In contrast, dispositions by pleas to reduced charges are deemed a weakness in the trial sufficiency policy of the New Orleans District Attorney. Similarly, a high rate of dismissals for insufficient evidence may be routine in Buffalo where intake screening does not exist, yet, it would reflect poor decisionmaking in both Des Moines and Kansas City where extensive intake and case review occur.

Although research is still progressing in this area, it appears possible to form some preliminary groupings of public defenders' and prosecutors' offices based on factors that, at this time, have been found to be significant. By using the process steps to establish the different styles it is also possible to extend these classification systems to both the public defender and the prosecutor since both functions are directed to the processing of criminal cases. (This excludes the area of defense involvement in the arrest process) Within this adjudication environment, the discretionary power shifts between the prosecutor and the defender depending on the stage. For example, the charging discretion of the prosecutor gives way to the defender's ability to accept or reject plea offers, ask for continuances, file motions or waive hearings. In this respect, as both agencies decide to adopt various courses of action their activities become discretionary and produce several different styles of operation.

In functional terms, the various forms and styles are influenced and shaped by factors operating in the following five areas: (1) the criminal justice system; (2) intake; (3) accusatory; (4) trials and (5) postconviction. The identification of the important variables in each of these areas will provide a basis for understanding the dynamics of the agencies and set a foundation for interpreting the manifest behaviour of their decisionmaking systems.

B. Criminal Justice System

The environment within which the agency operates, and the constraints and limitations it imposes on the agency can be characterized by the capacity of the criminal justice system to deliver services. Capacity includes workload, the resources available to perform the work and any constraints limiting its output (in this case, court capacity). To measure capacity, it is necessary to specify the volume of cases that are referred to the office for action, the size of the office in terms of the amount of resources available, and the capacity of the court to dispose of cases as indicated by the number of judges that regularly "sit criminal".

For the agency, the most important factor is the number of attorneys employed by the office to handle the work and their experience level.

In addition, the availability of other comparable systems has to be considered. For example, the distinction between mixed defense systems and single systems is important since their co-existence may yield additional, although often invisible, resources. That such diversity exists can be seen in Figure IV-1 which shows the frequency of these mixed systems based on a survey of 84 jurisdictions. It is not just the defender systems that are mixed. Although not in such prevalent form, prosecutors experience it as well. In Ohio and Kentucky, for example, dual systems of prosecution exist. Under these conditions, the county prosecutor has either concurrent jurisdiction with the district attorney for some felony cases or separate control over the intake and accusatory processes for felony cases.

The type of court system plays an important part in prosecutor and defender performance. This is because a bifurcated court system (where cases are bound over from a lower court to a higher court for felony prosecution, or remanded from the felony court back to the lower court) provides more opportunity for system manipulation than a unified court. In addition, in bifurcated court systems, the likelihood of invisible resources is again present since the prosecutor may transfer cases to the lower court for misdemeanor prosecution, or to a local court for ordinance violations. The attorneys who work these courts may not always be part of the prosecutor's or defender's jurisdiction . As a result, while a bifurcated court system provides more outlets for work disposal, at the same, time it introduces complexity into the system that may increase case processing problems. A unified court system on the other hand, supports simplicity in case processing and provides for more agency accountability.

The most important constraint on the system is the court's capacity to process the volume of criminal cases it accepts. Capacity is best indicated by the number of criminal courts available or the number of judges that regularly "sit criminal". The court represents a fixed pipeline through which only a relatively constant number of cases can flow and around which other dispositional strategies must be available if the capacity of the pipeline is exceeded. In Brooklyn, for example, approximately 39,000 felony arrests a year are disposed of.

FIGURE IV-1

PERCENT DISTRIBUTION OF MIXED SYSTEMS OF INDIGENT DEFENSE
BY PERCENT OF REPRESENTATION

PUBLIC DEFENDER	CONTRACT	ASSIGNED	Count	Percent
0	0	100	14	17.28
0	98	2	1	1.23
0	100	0	3	3.70
20	0	80	1	1.23
20	50	30	1	1.23
25	0	75	2	2.46
40	40	20	1	1.23
50	0	50	6	7.40
50	40	10	1	1.23
60	5	35	1	1.23
60	15	25	1	1.23
65	0	35	1	1.23
66	0	33	1	1.23
70	0	30	3	3.70
75	0	25	1	1.23
75	10	15	1	1.23
75	25	0	2	2.46
80	0	20	5	6.17
80	18	2	1	1.23
80	20	0	1	1.23
85	0	15	4	4.93
85	15	0	2	2.46
90	0	10	9	11.11
95	0	5	3	3.70
99	0	1	1	1.23
100	0	0	14	17.28

SOURCE: Survey of Prosecutors: 1978-80

Jefferson Institute for Justice Studies

From this input, about 2,500 cases are indicted for felony trials which are conducted in approximately 25 trial parts. Unless there are substantial increases in court capacity or productivity, it is difficult to imagine how each defendant's constitutional right to a jury trial could be satisfied. The difference between case volume and court capacity forces a priority ranking of those cases that should use the trial dispositional route and those that should be disposed of by other means (generally a plea).

By specifying the character of the criminal justice environment, its input, output, agency resources and the types of court, prosecution and defense systems, bounds can be set about the criminal case processing system and the factors affecting it, identified. Having done this, it is next necessary to examine the adjudication process itself to isolate the important variables and note how singly, and in combination, they produce different sets of responses. In all about 43 variables may be needed to differentiate systems into broad categories. Each will be discussed as they affect the various process steps and summarized at the end of this chapter.

C. Intake Processes

There exist two distinct types of intake. One is the transfer type where the intake function is not performed by the prosecutor but rather the cases are charged by the police and filed in court. The other is the review and charging type.

For agencies operating with a screening activity, charging policy is important. Identifying which one is in place is a difficult task under the best of circumstances. Merely knowing declination rates is not sufficient since the variation may be due to a number of reasons other than policy preference. A survey of 70 jurisdictions showed the following percent distribution: (Figure IV-2)

FIGURE IV-2

PERCENT DISTRIBUTION OF 70 JURISDICTIONS

BY DECLINATION RATE

Declination Rate	Percent of Jurisdictions
0 - 7	18
8 - 13	26
14 - 27	29
28 - 80	27

SOURCE: Survey of Prosecutors: 1978-80. Jefferson Institute for Justice Studies.

There are some indicators that shed light on what policies are being pursued. Most sensitive is the combination of two variables, the procedure used to refer the case to the office and the time allowed before case filing. A minimum of information and fast filing requirements are not conducive to intensive examinations of the merits of a case for prosecution. More cases are accepted as a result. Conversely, detective prepared reports, the availability of witnesses and more time before filing should produce increases in case rejection rates.

An analysis of intake procedures and charging decisions (Jacoby Mellon, Ratledge and Turner, 1980) indicated that decisions about whether to charge a crime were based on two factors: the seriousness of the offense and the legal/evidentiary strength of the case. To the extent that any of these pieces are withheld from the decisionmaker, his decision is degraded and with it the ability to adopt some of the charging policies. For example, if minimal information about the witnesses, their credibility and willingness to testify is not present, a policy of trial sufficiency (no changes to the original charge) is not logically possible.

It can also be assumed that the information contained on written police forms is generally not sufficient to establish more than the legal sufficiency of a case. It often needs supplementing through interviews with the arresting police officer, the detective or the complaining witness. The extent to which they are not available diminishes the ability of the prosecutor to assess the legal/evidentiary strength of the case. Interestingly, the charging decision rarely utilizes information about the defendant's criminal history. The record of the defendant may have an influencing effect on the charging decision but this has not been statistically verified (Jacoby, Mellon Ratledge, Turner, 1980). The amount of information available to the prosecutor varies by type of police reporting practices. If cases are brought to the prosecutor's office in batches, the charging prosecutor makes decisions with the lowest level of information. He is forced to rely almost entirely on the statement of facts. If a criminal history is attached. his information level increases, but only to the extent that the record influences the charge levied. The critical factor in charging is information about the legal/evidentiary strength of the case. This is better obtained if the cases are brought over by either the arresting officer or the detective assigned to the case and supplemented by witnesses or victim testimony.

The implication of these procedures is seen in the charging policies available for use. Legal sufficiency is almost mandated under batch mode of intake. System sufficiency can operate only when it is possible to assess the legal evidentiary strength of the case and even more importantly, the defendant's criminal history so that expected dispositions can be determined early on. As noted, trial sufficiency must operate with the greatest amount of information.

Many of the defects and limitations in the intake process can be overcome if there is sufficient time between the police arrest and prosecutorial filings. Of 58 jurisdictions surveyed in 1979-1980, 34

percent reported that they had 24 hours or less to file charges after arrest. Another 26 percent had up to 2 days. The remaining 40 percent was spread over a range of 3 to 90 days. Five percent of jurisdictions had over 30 days to file charges. Clearly, with sufficient time before charges must be filed, the prosecutor can increase his level of knowledge and make more informed decisions and defense counsel has more opportunity to present his client's position to the prosecutor before official actions are taken. This impact was indicated by a significantly higher declination rate in those jurisdictions where time to filing exceeded 48 hours.

Other organizational variables are also important, they include: whether a distinct organizational unit exists to perform the intake review function or whether charging decisions are made by any available assistant; the experience level of the assistants making these decisions--trial lawyers or paralegals, third year law students or new assistants. Are the decisions emanating from this function subject to review and approval, or to what extent are controls placed on this discretion? Is a bottom line for the disposition of the case set at this point and sent forward or does the charging decision serve only to select the charge? This latter is important because the location in the process of where expected dispositions are first made and sent forward indicates the amount of control exercised over the entire function.

The measures to be collected are the frequency distributions of dispositions at intake, the percent of cases accepted or rejected, or referred to other processing agencies, courts or diversion programs.

For the public defender, intake decisions are less discretionary. The major variables affecting this stage are the point at which they first can intervene, the type of assignment procedures utilized (individual or process), the level of experience of the defenders used at this stage and the amount of discretion permitted them. In addition to the above mentioned measures the number of pretrial releases should be collected to measure the ability of the defender to assist his client in being placed on pretrial release.

D. Accusatory

In the accusatory phase, which starts with the charging decision and ends with arraignment, the type used needs to be specified. Four forms are prevalent in the U.S.: (1) arrest to grand jury for indictment; (2) arrest to preliminary hearing for filing of a bill of information; (3) the direct filing of a bill of information and (4) the redundant use of a preliminary hearing with a bindover to the grand jury for indictment. Figure IV-3 shows the diversity that exists when the primary and secondary uses are displayed from this survey of 67 jurisdictions. The most common form is the preliminary hearing if cases are reviewed by the prosecutor prior to filing of charges. It is the grand jury, if this function is transferred.

Preliminary hearings vary from pro forma submissions of a bill to an adversarial mini-trial. As a result different requirements for

FIGURE IV-3

Accusatory Phase

1. Types of Accusatory Processes Used:

GJ = Arrest to grand jury
PH = Arrest to preliminary hearing to filing information
PH/GJ = Arrest to preliminary hearing to bindover for grand jury
INFO = Arrest to direct filing of information

PERCENT DISTRIBUTION OF JURISDICTIONS BY TYPE OF ACCUSATORY PROCESS USED IF FELONIES ARE REVEIWED AT INTAKE

(67 Jurisdictions Reporting)

Used Most Often	Used Often: GJ	PH	PH/GJ	INFO
GJ	4	2	2	
PH	5	42		
PH/GJ		2	3	
INFO	5	3		26

PERCENT DISTRIBUTION OF JURSIDICTIONS BY TYPE OF ACCUSATORY PROCESS IF FELONIES ARE NOT REVIEWED AT INTAKE - N=12

Used Most Often	Used Often: GJ	PH	PH/GJ	INFO
GJ	17			
PH				
PH/GJ	25	17	33	
INFO				

SOURCE: Policy and Prosecution, Appendix A (Jacoby, Mellon, Smith, 1980)

staffing and discretionary controls exist. Obviously in pro forma procedures, trial experience is not essential, nor are discretionary controls. Because of its short term nature this type of hearing generally is not a major dispositional outlet.

If the preliminary hearing takes on the form of a mini-trial, then the organizational structure, the experience level of attorneys participating and their discretionary freedom should be examined. The adversarial preliminary hearing requires either a staff of experienced personnel, or lacking these resources, supervision by senior attorneys. Therefore, the amount of discretionary controls placed on obtaining approval for dismissals, pleas to reduce charges, diversion or referrals are a function of office policy and staff experience.

Statistics indicate whether the accusatory process is used as a major dispositional outlet, (assuming the role of another case review and evaluation step) or whether it merely acts as a pass through. If there is little or no screening prior to the case coming into the accusatory process, this stage serves as a major dispositional outlet. Figure IV-4 shows the average pretrial dispositional rates by type of accusatory process for 79 jurisdictions. Of interest is line one, the combination of a transferred intake function and the grand jury utilization. Here the effects of the absence of an intake function is clearly reflected in a high rate of dismissals at the first appearance for the setting of bond and appointment of counsel. The frequency distribution of dispositions indicate the type of use made of this process step. The rate of dismissals for insufficient evidence hint to the quality of review and screening exercised at intake. The rate of pleas (especially to reduced charges) also indicates the role of this step as a dispositional vehicle.

The public defender has the least amount of interaction with the prosecution or the courts in this process step unless the accusatory vehicle is an adversarial preliminary hearing. When this occurs, the attorneys in this agency are subject to the same variables of staffing, experience, discretionary freedom and the types of dispositions as are the prosecutors. In the latter area, dismissals, diversion or referrals to the lower court for misdemeanor processing are desirable outcomes followed by a satisfactory plea negotiation that may involve either a plea to a reduced charge or the dismissal of other pending cases or charges. In addition; for the public defender, another measure of successful performance is whether a jailed client is released pursuant to defense counsel's motion to review the bail.

E. Trials

In the trials process, jurisdictions need to be distinguished by whether they are plea oriented or trial oriented. As previously noted, offices like New Orleans and Salt Lake City dispose of a larger proportion of cases by trial than pleas. In contrast, those like Brooklyn and Wilmington are to be more plea-oriented. The mixture of court capacity and agency policy tends to distinguish one office from another. In court systems with little capacity, a trial oriented policy

FIGURE IV-4

PERCENT DISTRIBUTION OF CASES DISPOSED PRETRIAL
BY TYPE OF ACCUSATORY PROCEDURE MOST OFTEN USED

Accusatory Procedure	Percent Pretrial Dispositions				
	Total	Intake	Appearance	Preliminary Hearing	Grand Jury
Grand Jury No Review	36	0	22	6	8
Grand Jury or Preliminary Hearing with review	44	10	3	13	18
Preliminary Hearing	46	20	0	26	0
Info	22	21	0	0	1

NOTES: GJ = Arrest to grand jury

PH = Arrest to preliminary hearing to filing an information

PH/GJ = Arrest to preliminary hearing to bindover for grand jury

INFO = Arrest to direct filing of information

SOURCE: Policy and Prosecution, Figure 8, pg. 33 (Jacoby, Mellon, Smith, 1980)

is counter-productive and a system efficiency policy finds a supportive environment within which to thrive.

The experience of the trial assistants and the discretionary controls placed on plea offers and dismissals are important factors at this stage. If the assistants are experienced, they usually are given a free hand in bringing cases to disposition. The exception to this occurs when the policy of the office is one that discourages plea bargaining. In this circumstance, strict management controls must be established, regardless of experience level, to maintain a no reduction policy. In jurisdictions where plea negotiation is used as a dispositional strategy, its characteristics need specification. Some are formalized through pretrial conferences, others are temporarily available for a specified time period, and others are available for use even during a trial itself.

Research has shown that it is the top priority cases, those having serious, offenses, strong evidence and defendant's with extensive criminal records that proceed to trial. However of 89 jurisdictions surveyed, only a small proportion (31 percent) reported taking cases with marginal evidentiary strength to trial. Thus, two different perspectives are represented. Either the cases that are marginal in evidentiary strength are plead out, usually through negotiation, or the strong cases proceed to trial. The result of the former is higher conviction rates than those displayed by other jurisdictions where just the opposite approach is taken. There, the strong cases having no question of guilt are plead out and the marginal ones adjudicated.

Docketing is another variable affecting the defender's or prosecutor's work since the courts use of either individual or master calendar assignment procedures influence the office's structure. The differences between a trial team organizational approach or an assembly line process model lie in the amount of accountability that can be found in the system. A different effect can be observed if the prosecutor controls the trial docket. One can expect fewer continuances and the other debilitating results of delay. For the public defender, prosecutor-set dockets tend to limit the use of continuances for delaying purposes and foster the use of discovery. If the docket is controlled by the court, it is important to note whether the continuance policy of the court is controlled or liberal.

Finally, the frequency of dispositions that reach the trial stage needs specification with special interest placed on the level of the disposition, namely, the proportion of disposed cases with the original charge reduced. Charge reduction reflects a different style of operation from one where a bottomline is established at intake and expected to be followed. When reductions are allowed, the bottom line is generally set at the trial stage. Because of this, it is possible to identify the degree of relative independence among each of the process steps. An early setting of the bottomline (at intake) provides a thread of continuity for case processing. If changes can be introduced at any point in the process, the various stages must be relatively independent of one another. For example, surviving a motion to dismiss at preliminary hearing may be measured as success independent of the case's

final outcome or it may be viewed as continuing justification for a good acceptance decision. The difference lies in distinguishing between an agency that extends control over the entire defense or prosecution process and one that only controls the individual points along the way.

F. Postconviction

Finally, the last process needing specification is the postconviction stage. This area is significant because it indicates how far beyond the operational (dispositional) limits the agency extends its influence and policy. Excluding the appellate process (which is institutionally separate from this functional examination), foremost is prosecutorial participation in sentence recommendation activities. Although, in some jurisdictions the prosecution may be precluded by the court from participating in this activity, in other jurisdictions this activity is abandoned voluntarily. This latter situation may occur for a number of reasons, a major one being that it is simply not needed. The existence and use of habitual offender acts, statutory mandatory minimum sentences or sentencing guidelines may suffice instead. The important point is that when the prosecutor does participate in making sentence recommendations, he has extended his function past mere case disposition. Therefore, if he does not participate in the activity the distinction must be made whether he is precluded from it, whether it is essentially an irrelevant task or whether he chose not to participate in it.

The characteristics of the sentencing procedures also influence prosecutorial activity. This includes whether sentences are imposed by juries; whether consecutive sentencing is available; and, as already noted, whether habitual offender acts, mandatory minimums or sentencing guidelines are in place. Jury sentencing stereotypically produces longer sentences. Hence it tends to limit jury trial usage to either those cases where the defendant's record is so bad that the uncertain result of a jury trial is safer than the certainty of sentence imposed by a judge; or in those cases where the evidence favors the defendant. Where jury sentencing exists the defense use of jury trial demands as a delaying mechanism is reduced.

The lack of consecutive sentencing power may have an observable impact upon the number of dismissals found in a jurisdiction. For example, in Michigan, consecutive sentencing is not available. Therefore, once a defendant has been convicted in one case, other pending cases with the same or similar charges are dismissed since the sanctions imposed cannot be increased. Conversely, if the jurisdiction has habitual or multiple offender acts, sentences can be increased by active prosecutorial involvement in the postconviction area, or plea negotiation can be enhanced. These acts tend to increase the discretionary power of the prosecutor, tying his charging decision to the sentence.

If there is one uncertainty that pervades the system from the defense perspective, it is assessing the maximum sanction likely to be imposed. Once this is known, the selection of defense strategy (plea or

trial) is made easier. The effect of uncertainty is to increase the prosecutor's plea negotiating power. If the reductions or other considerations offered are not strong enough to change the sanctions to those desired by the defender, then the result may be to move the case to a trial status. The balance between the two effects is delicate indeed. When sentencing guidelines are injected into the process the result generally is in the cessation of routine prosecutorial activity in this postconviction area. Only where aggravating circumstances are present to enhance the sentence should one expect to find activity in this phase.

The most troublesome area in sentencing is that caused by the legislation of mandatory minimums. Since most, by definition, do not permit flexibility or discretion in application, they are capable of imposing undue hardship on prosecution and defense, as well as the court and force in some innovative actions to countermand their effect. To illustrate, a young woman of eighteen was arrested for shoplifting at a suburban mall. Upon a search, a gun was found in the bottom of her purse. The state law required that she be charged and if convicted, imprisoned for three years despite the fact that this was her first offense. While these events are probably more exceptional than routine, their existence should be noted as they apply to specific offenses.

G. The Public Defender

Although this section has had a prosecution bias because the discretionary processes are more inherent to this agency and more research is available to document this functional analysis, the public defense functions can be analyzed by these process steps also. Although the emphasis changes, the factors tend to remain the same. The primary one is whether there is defense participation in each of these steps.

The extent to which there is no early representation in the intake step prior to a charging decision being made, diminishes the defender's influence in the process analogous to the prosecutor who does not review cases. The result is a lack of case control and a lack of information. This latter problem may not necessarily be alleviated later.

The extent to which the defender can obtain adequate information through the accusatory process is clearly, dependent upon the process type, the limits of discovery and the type of defense counsel assignment. Preliminary hearings reveal the most amount of information in contrast to secret grand juries. But if they are pro forma, Gerstein type hearings little additional information may be gained at this point by the court process. If, on the other hand, they are adversarial or if the prosecutor follows an "open file" policy, then much information about the case may be disclosed at this stage or even earlier.

The type of defense assignment used is also important--whether an individual client relationship is established or whether a process or zone model is utilized. In the latter instance, the defender suffers from the same problems that face the prosecutor--fragmentation,

duplication of work effort, loss of information, etc. The accusatory process may provide the defender with his first opportunity to learn the strength of the state's case. If it is used as a major dispositional outlet, it is also a focal point for the defender's activity. The defender's order of dispositional preference is, first, no charge placed; second, failing that, an early dismissal; third, a plea bargain that is amenable and acceptable to his client; fourth, an acquittal or dismissal at trial and finally the imposition of the least severe sanctions or the establishment of grounds for appeal. As a result, the focus of his activity changes as he moves from one process step to another.

In the trial stage, the work of the defender does not vary that much from that of the state. Thus, the same factors need to be examined. They include, the experience level of the defender, type of case assignment, controls on discretionary actions by type of approval needed for certain trial strategies such as accepting a plea offer, the level of reduction to be accepted, making motions, and the availability of special resources such as investigators, expert witnesses, laboratories etc.

It is the postconviction area that claims the attention of the public defender because it is here that the sanctions are imposed. How this agency interacts with the presentence investigation and the prosecutor's sentence recommendation activities indicates the extent to which that agency views its role beyond merely processing cases. As the assistant public defenders in Alaska noted after the cessation of plea bargaining there, preparing the defendant for the presentence investigator in some respects was more important than preparing the case for trial when there was no question of guilt. (Rubinstein, Clarke, White, 1978)

If appeals are part of the defender's function, its activity and volume should be measured following an analogous process step approach. This activity, however, is not included in this examination.

H. Conclusion

In summary, by viewing each of the process steps separately, it is possible to isolate some of the significant factors and specify some of the dispositional data that should be collected for evaluating performance. This functional approach allows movement from one jurisdiction to another even though the form and structure of the agencies may vary. As the various process steps are linked together, the different types of responses they generate can be identified and an understanding of the dynamics of the agency's performance can be obtained. Thus, a foundation can be laid that first, identifies the variables that should be subjected to measurement and second, provides for the interpretation of the dispositional data generated.

The critical problem facing performance measurement at this time is not that of collecting data, but of interpreting it. Unless these agencies are viewed in a dynamic fashion, operating with different sets

of goals and priorities, it is difficult to know what to do with the measures or how to evaluate them. This, then, is the first step needed to establish an approach to performance measurement.

The results of this functional analysis are synopsized in Figure IV-5. It specifies the significant variables that interact to affect agency performance and represents a first step toward the development of performance measurement models. The variables listed should be clustered into logically consistent groups such that their dispositional patterns will reflect different adjudication styles. In statistical terminology, the dispositional patterns are the dependent variables and the styles of prosecution and public defense which result from clusters of the variables exhibited in Figure V-5 are the independent variables. The implications of this for building models of these systems will be examined as part of the measurement of a decisionmaking system considered in Chapter VI.

FIGURE IV-5

SUMMARY OF IMPORTANT VARIABLES FOR PERFORMANCE MEASUREMENT
OF PROSECUTION AND PUBLIC DEFENSE

Variables	Categories	Number in Category
I. CRIMINAL JUSTICE SYSTEM CHARACTERISTICS		
1. Volume of cases referred	Felony, misdemeanor, traffic and moving violation, other	4
2. Size of office	Total, Attorneys-criminal, Attorneys-civil	3
3. Funding of Public Defender	Private practice allowed, none allowed	2
4. Jurisdiction of agency	Single, mixed	2
5. Jurisdiction of court	Bifurcated, unified	2
6. Number of criminal courts	Felony, misdemeanor, other	3
II. PROSECUTION CHARACTERISTICS		
A. Intake		
1. Type	Transfer, charging	1
2. Intake procedures	Batch or Courier, Arresting Police Officer, Detective, Other Witnesses interviewed	4

FIGURE IV-5--(Continued)

Variables	Categories	Number in Category
3. Experience level assistants	Trial, no trial, law students or paralegal, DNA	4
4. Charging unit	Exist, does not exist	2
5. Charging decisions reviewed and approved	Routinely, exceptional, no, DNA	4
6. Bottomline disposition set	Yes, no, DNA	3
7. Disposition frequency	Accept, reject, refer, DNA	4
8. Time for arrest to charge	Average or median days	1
B. Accusatory		
1. Type most often used	Grand jury, Preliminary Hearing (PH), PH bindover grand jury, Direct filing	4
2. Type of preliminary hearing	Pro-forma, adversary, mini-trial, DNA	4
3. Experience level assistants	Trial, no trial, law students, DNA	4
4. Disposition decisions reviewed and approved	Routinely, exceptional, never	3
5. Major dispositional outlet	Yes, no	2

FIGURE IV-5--(Continued)

Variables	Categories	Number in Category
6. Disposition frequency	Dismissed, diversion, referred lower court, plea-original, plea-reduced, bound over, other	7
7. Time from arrest to arraignment	Average or median days	1
C. Trials		
1. Attorney case assignment type	Individual or trial team, process, mix	3
2. Court docketing procedure	Individual, master calendar	2
3. Docket control (not initial setting)	Court, prosecutor	2
4. Experience level assistants	Extensive trial, some trial, new	3
5. Plea bargaining permitted	Yes, no	2
6. Type of negotiation	Pretrial conference, cutoff time, anytime, DNA	4
7. Open file with defense	Yes, never	2
8. Disposition decisions reviewed or approved	Routinely, exceptional, no	3

FIGURE IV-5--(Continued)

Variables	Categories	Number in Category
9. Continuance policy	Controlled, reasonable, liberal	3
10. Trial policy preference	Marginal evidence to trial, strong to trial	2
11. Special prosecution programs	Offense based, offender based, both, none	4
12. Disposition frequency	Plea original, plea reduced, dismissed, acquit, convict original, convict reduced, other	7
13. Time arrest to disposition	Average or median days	1
D. Postconviction		
1. Sentence recommendation	Routinely, sometimes, never	3
2. Jury sentencing	Yes, no	2
3. Consecutive sentencing	Yes, no	2
4. Use of habitual or multiple offender acts	Routinely, sometimes, never	3
5. Sentence guidelines	Yes, no	2

V. THE STRUCTURE OF DECISIONMAKING SYSTEMS

A. Introduction

To view agencies as decisionmaking systems whose performance is measured by the effects of these decisions, implies the existence of a set of principles. They include: the definition of the decision act itself; the sufficiency, adequacy and availability of information on which decisions are based; the goals, priorities and experience of the decisionmaker; the alternatives that could have been selected; the constraints placed on their selection; and the reliability and validity of the decisions themselves.

This section will consider these factors as they apply to prosecution and public defense. It draws extensively from a discussion presented in an NIMH monograph produced in the Crime and Delinquency Issues area titled Decisionmaking in the Criminal Justice System: Reviews and Essays. Edited in 1976 by Don M. Gottfredson with contributions by Harold E. Pepinsky, Leslie Wilkins, and R. William Burnham, the monograph explores decisionmaking in the criminal justice system. Its examination and discussion of principles and research findings have provided fertile background for the discussion presented here.

B. Rational Decisions:A Definition

A basic assumption of rationality in the systems is adopted. The concept of rationality is a complex one but it is one that must be considered as intrinsic to decisionmaking in criminal justice systems. It is easier, however, to discuss it by focusing on rational decisions if the definition offered by statistical decision theory is adopted. A rational decision is based on three primary assumptions. First, it assumes that a choice of possible decisions is available; second, that information also exists since it is not meaningful to discuss the idea of the rationality of a decision if the decision is made in total absence of information; and third, that there must be some criterion or purpose with respect to the decision to be selected. As Wilkins states it, "a rational decision is that decision among those possible for the decisionmaker which, in the light of the information available, maximizes the probability of the achievement of the purpose of the decisionmaker in that specific and particular case." (Wilkins, 1975:70.)

Prosecution and public defense systems abound with dispositional decisions. They range from declinations to dismissals, diversion alternatives, pleas or trials. Each, as has been shown, may or may not be available at any given decision point or in any given jurisdiction or in any combination. Thus, the first condition is satisfied.

The second condition, namely that a body of information also exists on which the decision can be based is satisfied; but it introduces issues of the adequacy, sufficiency and the availability of the information. Certainly, as we know, this is a critical area of concern and a candidate for more substantive research.

Finally, it would be difficult to find a more probabilistic area than the checks and balances exchanged between prosecution and defense systems that maintain levels of uncertainty as they seek to meet their respective and often conflicting goals. Thus, adopting of a definition of decisions that is grounded in statistical decision theory lets us approach the measurement task with more confidence knowing that some methodological tools and theories are already available.

C. The Nature of Information

Decisions rarely can be made with certainty as to the correctness of their effect. This is primarily because of the inability to state precisely what constitutes adequate and sufficient information. Thus, it is necessary to introduce the concept of probability to the definition of decisionmaking. As Wilkins (1975:66) notes this "postulates an association between the degree of confidence which we wish to see in a decision and the consequences of that decision." This concept has particular relevance heres since most decisions of consequence are made with an aim for a desired, but uncertain, disposition of a case or a preferred sanction.

If the intake, accusatory, trial and postconviction functions of prosecutors and public defenders are examined, it is clear that the information used for decisions is cumulative. It increases as the case approaches the trial stage and culminates with peripheral information collected for a presentence investigation report. Additionally, the amount of information used by prosecutors and defenders varies considerably among jurisdictions and depends largely on the policy, practices and procedures of agencies (usually law enforcement) over which the prosecutor or the public defender have little or no control. For example, information provided prosecutors at intake forms the basis for charging decisions and is supplemented throughout adjudication. Because of procedural variations, both the quality and quantity of the information differs. For example, reports brought to charging assistants by arresting police officers within 8 to 12 hours after arrests have occurred contain less information, more hastily collected, than reports brought by detectives after two days of extensive investigation and interviews with witnesses.

It is not just the written word that is a source of information. Oral communication in the form of interviews also plays a large part in the decisionmaking process of the attorneys. For example, charging assistants who have the time and opportunity to interview not only detectives but the complaining witness and other witnesses should have a better information base than those who make decisions based on simple arrest reports. Wilkins (1975:68) noted, "If we recognize that decisions are made about the information we have about a person, then we

must accept that the information is limited in quantity and may have some deficiencies in qualities."

Burnham (1975:94) distinguishes between data and information. He classifies all bits of potential knowledge which reach the decisionmaker as data. Data can only be designated as information when they "generally reduce uncertainty in the decision or the problem under consideration and noise which is the residue." He recognizes this transformation by stating that "information is defined as being specific to a particular decision or problem, any single datum, therefore, can change its state from 'information' to 'noise' or vice versa in a change of context."

Burnham has done extensive research in the area of information processing based on the original works by Leslie Wilkins and others in the social science decisionmaking school. He presents in his chapter "Modern Decision Theory and Corrections" a comprehensive description and summary of the major areas that decisionmaking systems should consider. Of particular interest are the effects of information overload. Empirical testing indicates that the maximum number of data elements that can be processed profitably at the same time by a decisionmaker is about eight. Above that number, confusion sets in resulting in a decline in decision quality. In a substantiating series of studies by Stanley Turner, (1960) similar experimentations with decisionmakers also produced comparable results. His research showed that as the decisionmaker was overloaded with information the correctness and timing of his decisions were degraded.

Insufficiencies or overload are not the only areas that should be considered in attaining a level of adequate and sufficient information. In fact, a wide range of design directives exist. The following are excerpted from Burnham's work because they are especially applicable to prosecution and public defense systems. (Burnham, 1975:111-115.)

1. The system should de-emphasize the effect of personality variables, especially emotive personality variables, in the decision process.

2. The system should be able to be used to train decisionmakers in a further understanding of the complexities of their task.

3. The system should be able to avoid the effects of information overload.

4. The system should generate data as to the agreement among decisionmakers, among different individuals and over time, on the weighting of factors.

5. The system should reproduce formally, so far as possible, the underlying informal structure of everyday decision processes.

6. The system should produce and utilize probability and utility estimates by the decisionmakers in numerical form.

7. The system should provide considerable feedback, preferably of a correct-answer type.

8. The system should encourage consistency across decisionmakers in the hierarchy of decisions, and especially in respect of the decision criterion.

These directives point to one of the more troublesome aspects of criminal justice decisionmaking systems. Namely, introducing uniformity and consistency into the decisionmaking process by supplying enough information to the decisionmaker so that essentially the same conclusions are capable of being reached. Not only is the issue of equity introduced by the concepts of uniformity and consistency, but the more practical problem of defining what is a correct decision is also spotlighted. How the balance is to be struck between a system that provides the decisionmaker with sufficient and adequate information to make operational decisions while at the same time provides measures of the correctness of these decisions is a critical area. More attention to this issue is indicated.

D. The Nature of the Decisionmaker

Measuring the performance of an agency by the results of its decisions requires that the goals, priority and experience of the decisionmaker be acknowledged. Obviously, in the ideal world as Burnham (1975:103) notes "it is preferred that the decisionmaker know which of the possible outcomes he prefers, be consistent both internally in his order of preference and in considering only the outcomes which depend upon his decision and, be able to separate his objectives or utilities from beliefs or estimates of likeliness." He concludes:

> "it is not all that surprising that empirical research has found individuals to lapse from these high standards in all but the most simple decision situations. Therefore, if a decision system in corrections or anywhere else, is to claim itself to be rational, it must encourage those who operate in it to be consistent in their preference scales, to have a definite choice of preference and to keep their estimates or probabilities as little influenced as possible by their preference scale, while extracting all possible information from the data." (Burnham, 1975:103.)

Under more realistic circumstances, decisionmakers operate with few carefully articulated policies and little guarantee that they are receiving adequate or even complete information. Nevertheless, there still can be found high levels of consistency with the policy of the office, which increases with the experience levels of the attorneys. The recent research on prosecutorial decisionmaking (Jacoby, Mellon, Ratledge and Turner, 1980) showed not only differences in dispositional patterns among offices but measured the levels of agreement within offices. Tests administered in four jurisdictions (Brooklyn, Wilmington, Salt Lake City, and New Orleans) showed that two sites (Wilmington and Brooklyn) rejected almost one-half fewer cases than Salt Lake City and New Orleans. Two sites were clearly trial oriented, the

other two, plea oriented. Policy distinctions significantly influence the preferences and choices of the decisionmaker and ultimately are reflected in the dispositional patterns of the office.

Similarly, testing in the Kings County (Brooklyn) prosecutor's office showed that as trainee attorneys--those newly employed by the office and recent law school graduates--gained even minimal experience, such as that offered in misdemeanor courts, the variety in their decision choices increased along with uniformity and consistency in these choices. Part of this was due to their increased knowledge of the additional dispositional outlets available such as diversion and adjournment in contemplation of dismissal. Part was due also to their learning what was the criteria for selecting one dispositional outlet over another.

This point introduces the issue of constraints placed on decisionmakers and their decisions. There are vast differences in the degrees of discretion permitted attorneys in their decisionmaking processes. The amount of discretionary control is generally consistent with the policy of the office and the experience level of the attorney. For example, an office that endorses a policy to minimize changes in prosecution charges once they are filed in court, must, by necessity, control the discretion of the attorneys so that changes cannot occur without prior approval. In contrast, an office endorsing efficiency should support freedom of discretionary decisions among its more experienced attorneys.

Although the experience level of the decisionmaker is important, it is a factor that cannot be examined in isolation. The attorney's experience level has to be related to the organizational unit and the organizational controls placed upon the decisionmaker. For example, the fact that a relatively inexperienced attorney is preparing and trying felony cases does not, by itself, indicate that the quality of the work or expected outcomes suffer. Additional information is needed before this type of assessment can be reached. Activities need to be described with respect to the review, supervision and oversight controls imposed on the decisionmaker. This means that the decisionmaker should be described relative to the experience level of his supervisors, the complexity of the decisions being made, and the amount of discretion permitted. This is especially important where decisions affect the disposition of the case or change the preferred disposition.

E. Selection of Choices

For each decision point in the process there is a set of action choices. It is not generally true in criminal justice decisionmaking systems that the choices are always the same for each decision point or are always available for each jurisdiction. The intake decision choices, if they exist, are basically limited to three: accept, reject or transfer elsewhere. The accusatory decisions involve going forward with felony processing, misdemeanor prosecutions, dismissals, diversions, or pleas.

Depending upon the nature of the program or the jurisdiction, diversion may be available at only a few points such as intake and pretrial, or only after a plea of guilty has been entered.

It is obvious that all of the choices routinely available to the decisionmaker should be identified before the frequency of their use is counted. These frequencies establish a foundation for case reporting systems as well as performance measurement systems. As cases flow through the intake, accusatory, trial and postconviction process steps, data on the decisions made or the options exercised accumulate to provide the base for statistical reporting systems.

The fact that the number of choices available to a prosecutor or public defender are limited in number at each process step facilitates their observation and measurement. Unfortunately, they are rarely collected in this form. The loss is significant because it reduces the agency's ability to measure accountability, responsibility and performance.

Collecting the selection of choices data permits measurement of the consistency and uniformity of the decisions. Consistency may be defined as the level of agreement between the policy leader and the assistants. Uniformity refers to the agreement among the attorneys independent of a leader. A lack of consistency or uniformity, in decisions results in measures that are difficult to interpret. For example, where an office is divided over policy then the aggregate decisions should produce "random" patterns of disposition. Under these conditions, prediction (and its handmaiden, evaluation) would be difficult if not impossible. Fortunately, this rarely occurs.

Testing the consistency and uniformity of decisions in fifteen jurisdictions and among 855 attorneys showed showed that decisions were generally made consistent with policy leaders and tended to be uniform. The highest levels of agreement were found in either normative or policy-related decisions including the priority of cases for prosecution, whether to accept the case, whether to dispose of it at a reduced level, and the preferred sanctions. (Jacoby, Mellon, Ratledge and Turner, 1980)

These results are reasonable since one would expect organizations to establish routine and stable systems of operation over time. If, in fact, this were not the case and consistency in decisionmaking was not high, then one should observe daily chaos and conflict. However, the fact that prosecutors or public defenders operate within a system of constraints imposed by police, courts and each other does not permit such a condition to be sustained over any length of time. Thus, the issue is not whether uniformity or consistency exists in decisionmaking but rather, what is the preferred level given the priorities of the agency, and when are its tolerance limits breached?

F. Reliability and Validity of Decisions

Basing agency performance on the results of decisions, requires the introduction of mechanisms to monitor the correctness, reliability and validity of the decisions. This is an area often overlooked in design and development of both operational and evaluative procedures. Unless there are startling reversals or other exceptional circumstances about decisions or dispositions, feedback information generally is not given to the preceding decisionmakers. Thus, charging decisions, for example, may have been incorrect or unrealistic, but if information about their later amendment in the accusatory process is not relayed to the charging assistant, the likelihood of correcting future decisions is reduced. For if decisions are not reliable or if they are not valid as Wilkins (1976:09) notes, they cannot be replicated over time nor can they produce expected outcomes. Without a feedback correcting mechanism there is little chance for improvement or change in the decisionmaking process.

This is not to advocate that every disposition of every case be returned to each decisionmaker in the process. Clearly this would be a monumental and unnecessary task. Rather such systems should be designed for exceptional reports, when the expected or preferred disposition or sanction is to be changed.

This issue does not generally prevail in public defenders offices that espouse a client-service representation or in those prosecutors' offices using trial teams or individual docketing assignment procedures. In situations where one person handles the case from assignment through disposition, the need for this feedback and self-correcting mechanism is reduced as long as communication among attorneys is maintained. Where these conditions do not prevail, the ability to discern incorrect decisions should be an integral part of the performance evaluation tasks of agencies.

The structure of the decisionmaking system imposes some complex problems for quantification. The salient tasks that should be undertaken are as follows:

1. Identify and evaluate the types of information being forwarded to the decisionmaker with respect to its completeness, adequacy, sufficiency, timeliness and availability, the extent to which the decisionmaker has access to interview information in addition to written information, and the time allowed for the decision.

2. Determine the experience level of the decisionmaker, the organizational supervision given to discretionary decisions and the degree of consultation available to him in making decisions.

3. Identify all the decision choices that are available at each process point where dispositional decisions can be made.

4. Count the frequency of the choices made since the preferences indicate the policy of the office and the priorities to

the decisionmaker.

5. Count the number and type of changes or modifications made to decisions at subsequent stages.

Once done, a measurement system can be created that will support descriptive, evaluative, comparative and predictive studies.

VI. STATISTICAL SYSTEMS FOR PERFORMANCE MEASUREMENT

A. Introduction

Measuring decisionmaking systems requires first, capturing data about individual decisions and second, aggregating them to an agency level for operational, management, and planning purposes. As a result, agency measures are only as reliable as the units (or in this case, decisions) being measured and only as interpretable as the circumstances influencing decisions are known. Case characteristics, office policy, staffing, the enforcement of discretionary controls, adequacy of information and the timing of the decision are all variables needing specification before dispositional patterns can be evaluated.

In this chapter, some of the major statistical applications will be examined as they apply to; (1) the internal management requirements of an agency; (2) the ability to conduct comparative studies and (3) support for predictive and/or long-range impact or planning studies. Each of these applications changes the measurement requirements.

Agency performance measures, generally, are used for either operational, administrative or planning purposes. For operational purposes, they describe what is happening inside the individual process steps. For management purposes they provide a view of the agency with respect to its total ability to deliver services taking into consideration the very real constraints of time, cost and resources. For planning, they project future needs and predict future events, trends or the impact of proposed change. The statistical data therefore can be classified into three major use categories: description, evaluation, and projection. Obviously no data element should be collected that does not serve at least one of these purposes.

This chapter will discuss these statistical applications, some data requirements and their measurement implications. Special attention is given to modelling the adjudication process so that more predictive power can be brought to the measurement task.

B. Descriptive Statistics

Descriptive statistics are the fundamental set on which the other statistics for evaluation and prediction may be mounted. The simple counting of criminal cases or defendants as they pass through the various stages of adjudication, and the analysis of these numbers provide vital information for any prosecutor or public defender. Such data are needed not only for day-to-day operating decisions, but also for administration and planning.

Descriptive statistics are defined as standardized data deliberately selected in order to describe the working of some aspects of the internal agency processes. It is important that

each element of this definition be examined carefully. Standardized data are collected according to a uniform and stable set of instructions. If, for example, the definition of a felony changes from year to year then felony statistics are not standardized. As a result, comparisons from one year to the next may be meaningless. Such changes in definitions limit the extent to which the past may serve as a guide to the future.

Deliberately selected data are gathered for a planned use. If data are collected without purpose, they may be termed "mindless". All too often such mindless statistics are thought to be harmless; but this is rarely the case. Useless data cost time and money to collect and process. In addition, they impose tasks on some employee who quickly recognizes their lack of utility. The costs and consequences of collecting, counting and storing such dead information are hidden rather than insignificant.

A decision point is that point in a process where someone must select one of a number of alternatives, one of which may produce a disposition of the case. Relevant decision points for prosecution and public defense have been extensively discussed. Adequate statistical description requires that there should be a set of descriptive statistics for each relevant decision point in the criminal justice system. The primary points are illustrated in Figure VI-1.

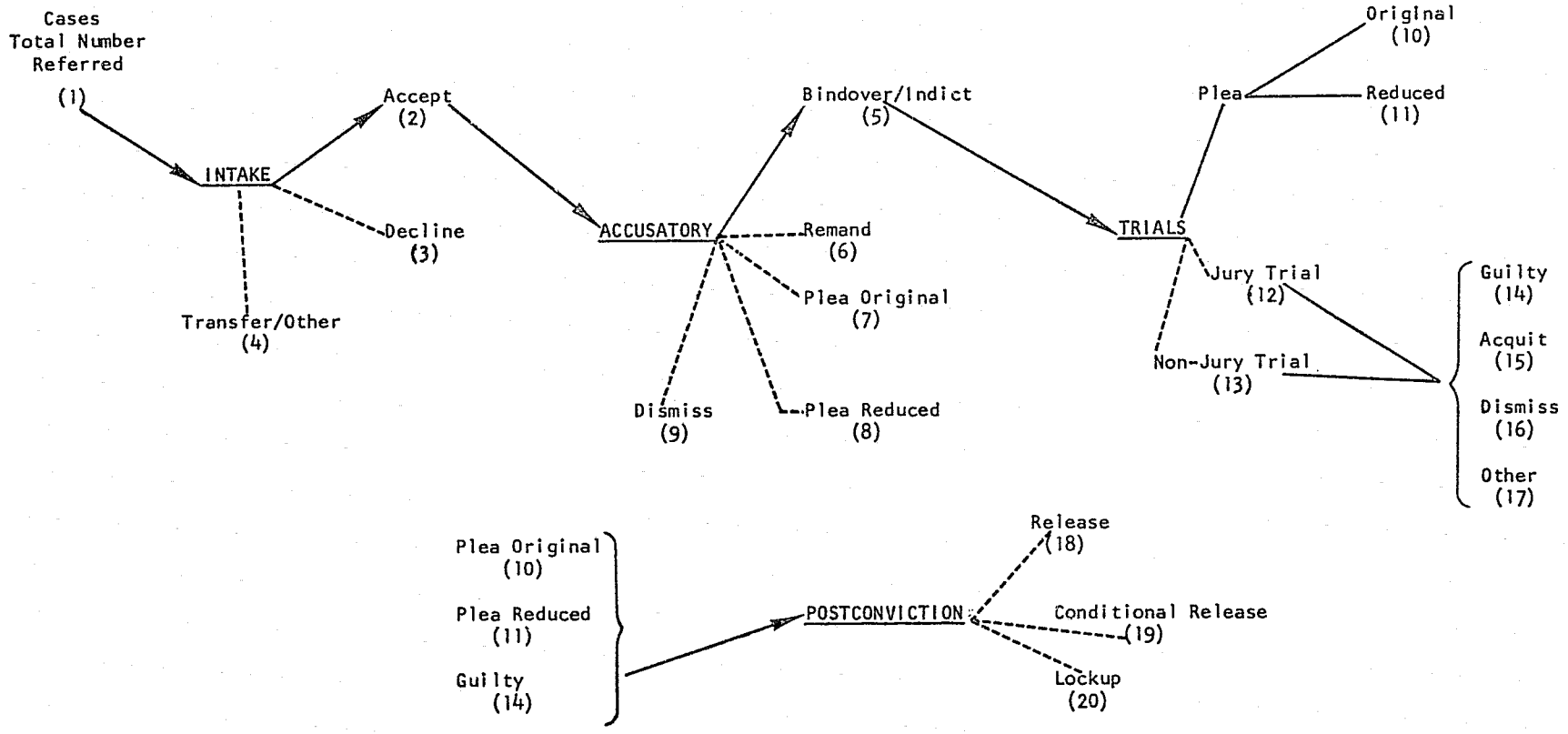
Three major principles that are relevant to the use of descriptive statistics can be stated as follows: (1) defendants are the units being counted; (2) numbers gain in importance when they are compared to other numbers. Thus, percentages are generally more informative than raw numbers; (3) the easiest way of forming an informative numerical comparison is to calculate the ratio of the number of times an event did occur to the number of times it could have occurred. When all of the decision points have appropriate descriptive statistics, the system is described and the statistical coverage is complete.

The appropriateness of descriptive statistics is assured by stating the purpose of the analysis so that it can specify the level of detail needed in the data collection phase. For example, the defender may wish to evaluate the effects of a new diversion program relative to changes in caseload. If data were not being collected in such a way as to allow the separation of the defendants that were rejected and those that were diverted, any subsequent analysis would be meaningless. Similarly, the demands for management information determine how the data are collected with reference to time.

There are two basic collection techniques which are generally used in measuring operations. They are based on either cohort statistics or cross-sectional data. Cohort statistics are those that are based on a sample of defendants chosen at some point in time, all of whom are

FIGURE VI-1

MEASUREMENT POINTS IN CRIMINAL CASE PROCESSING: A SCHEMATIC



traced through the system from intake to disposition. Decision point measures based on these cohorts have the characteristic that intake equals output since every case considered has passed completely through the system.

Such statistics are excellent from a research point of view, but are generally inadequate for operational and managerial purposes. First, the manager can rarely, if ever, wait until all of the cohorts have passed through the system since, in all likelihood, this may take up to a year -- obviously too long a time frame to be useful for management decisionmaking. Second, many of the defendants will have passed through different decision points at many different times and the manager may require information about the effect of a specific policy relative to a particular decision point during a relatively short period of time. There is no way to extract this information from cohort statistics.

Cohort statistics can also be retrospective. These are developed by sampling all cases that exit the system. For example, the path that each of these cases took through the system would be catalogued regardless of the time period that it entered. Obviously some of the cases could have entered earlier than others. These statistics usually are proposed to meet the criticisms of the prospective cohort statistics described above. They, unfortunately, suffer from a similar defect. Since the criminal justice system is always undergoing modification, cases that entered during different time periods may not have been treated in a like manner. Changes in drug laws or even prosecution and defense priorities, for example, may lead to completely different case treatment for nearly identical cases at different points and time. Thus, cohort statistics do not give current descriptions of operations which are precisely what management requires. A different approach is necessary and this can be found in developing cross sectional statistics.

Cross-sectional statistics provide a snapshot of the system. Instead of tracing a group of cohort defendants backward or forward through time, they describe a defendant's process through decision points during a specified period of time. The time period chosen (weekly, monthly or yearly) will depend entirely on the needs of the study. With cross-sectional statistics the number of defendants disposed of at any one point may be greater than, less than, or in rare cases, equal to the intake for certain periods of time. The actual inequality depends largely on the changes in backlog over the time period in question. Thus, what would appear to be an anomaly in cohort statistics (fewer exiting than taken in) is a frequent occurrence in cross-sectional statistics.

In spite of this difficulty (or perhaps because of it) cross-sectional statistics give a more current picture of performance than do cohort statistics. To describe the operations of process steps is more feasible with cross sectional statistics since they measure the volume of input in relation to output at each process point. Depending upon the needs of the prosecutor or public defender, these statistics can be further stratified by the type of offense, type of outcome, namely the

frequency of the choices selected by type of crime, length of time for processing and even the attorney's name if individual productivity rates are to be developed.

From the management perspective, descriptive statistics need to be supplemented by measures of time, resource allocations and budgetary considerations. Since the needs of management focus on the ability to maintain proper operational controls as well as to establish optimal resource allocation patterns within the existing budget, the extent of use of attorneys and support staff within each of these process steps is a measure of importance. In addition, management analysis also requires that efficiencies be maintained in case processing procedures and that mistakes be kept under control.

C. Evaluation Statistics

The use of statistics for evaluation begins with the collection of valid descriptive statistics. Evaluation simply adds certain other factors to the analysis and the application of the basic data. From a statistical standpoint, evaluation is simply the comparison of a descriptive statistic to a standard. The descriptive statistic may be any type of data, collected and processed: for example, averages, proportions, absolute counts.

The choice of a standard depends largely on the objectives of the evaluation. There are, however, three general categories which can be mentioned. (1) an externally specified standard; (2) similar offices, and (3) a model or internally specified standard. Sometimes it may be appropriate to utilize all three types and in others this may not be feasible. External standards are rare except those that are found in the law. Speedy trial rules are one such example. The prosecutor or defender may wish to systematically evaluate the performance of his operation relative to compliance with this external standard. The descriptive statistic then would be the proportion of cases dismissed because of noncompliance with the externally specified standard.

On many occasions, there may not be an externally specified standard. In that event, the performance of the office may be compared to others that are considered similar. To have a valid evaluation, the offices must be similar or homogeneous in both policy and procedural configuration. This requirement leads to the major weaknesses of most comparative evaluations because it is difficult to ensure homogeneity. Other comparisons are made to national averages which are usually poor standards at best since the average may represent a wide range of valid and legitimate variation or may not be a relevant measure. So few national averages are available that this application is rarely used.

As a result, most offices rely on internal standards to measure different levels of performance. In this case, the goal is a standard against which success or failure will be measured. The standard may take the form of a proportion achieved in some past time period, for example, the proportion of cases or defendants defended successfully

last year; or the standard may be a target arbitrarily set by the agency head if past experience is not a good base from which to improve. Internal standards are generally grounded in reality because those that are unrealistic, or not viable will produce frustration or stagnation. Such standards are also subjected to a self-correcting process stemming from complaints by the attorneys or persons involved in attempting to reach them.

Reliance on past performance, however, should be tempered by the reliability of the statistics of the past. These evaluations are not always sufficient if only an internal standard is used. The use of internal standards based on past performance or projected performance goals imposes a requirement that the descriptive statistics and the standard against which they are being measured are indeed comparable. This is particularly relevant when either the definition of the standard has changed over time within an office or in other offices if the comparison to external standards is used.

Three basic types of problems exist that produce invalid evaluations. They are: (1) the use of an inappropriate standard; (2) erroneous descriptive statistics; and (3) improper methods of evaluation. The use of an inappropriate standard occurs quite often. It occurs when an agency attempts to evaluate its performance using a national average or relating it to performance in other agencies without regard to similarity. As a measure of central tendency, an average is of little value unless there is some homogeneity in the groups from which it is derived. Even if this occurs, an average says nothing about the optimal performance possible. A more appropriate standard might be defined as the average of the "best" offices that are similar to the agency in question. This specification will point to a standard which gives the clearest possible interpretation of the subsequent evaluation.

Erroneous descriptive statistics are frequently used in measuring performance. For example, using a conviction rate to evaluate the performance of an office provides little information. It assumes that the agency wants to "win" all cases equally. Yet, the probability of winning any given case depends in part on the resources expended to win it and the resources available. Thus, the use of a conviction or acquittal rate alone rests on an erroneous assumption -- that of equality in case processing priorities. There are cases that the prosecutor or defender does not want to win. What is obviously needed is a weighted disposition measure that takes into account these priorities and constraints and includes all outcomes. Then, the descriptive statistic would reflect the reality of the agency.

Some evaluations use methods that are improper to the task desired. They include in the evaluation measures of activities over which the agency has little or no control and which are not accounted for so that their effects can be separated out. Time studies are good examples of this problem. If a time study is used to measure agency effectiveness relative to case preparation time, it may be that the ability to control the time element is outside the influence of the agency (i.e. lodged in the court docket). As a result, other variables need to be introduced so that they can be quantified and related in a

functional manner to the actual time. These pitfalls can be avoided if the process of evaluation is deliberate, based on a knowledge of the system and its dynamics and uses as many available standards as appropriate.

In summary, comparative analysis for evaluation purposes must use one of three standards, depending upon the purpose of the comparison: (1) either some externally specified standard such as a law or an average; or (2) some historical standard that has been developed over time which lets an agency meet the

expectations of the immediate past or a specified goal for the future; or (3) a spatial standard whereby the office or agency is compared to other jurisdictions. It is clearly in the area of standards that are found the least amount of theoretical or practical measurement development. The needs are obvious, however. They include the ability to group offices into homogeneous groups; the development of concepts and measures for excellence that take into consideration the optimal performance of an agency; and the development of statistics such as weighted dispositions that stratify the work of the agency by a priority scale. Unless major attention is given to these issues, the power of agency evaluation will continue to be limited.

D. Statistics for Prediction

Projection is estimating the future from descriptions of the past, (either short or long range). Projections look at the anticipated consequences of changes either in terms of outcomes, costs or time. They also support model building to simulate other environments in which the outcome is based on expected data or logical deductions. Projection should be distinguished from two other types of forecasting; prophecy and prediction. Prophecy is based on hunches or other forms of intuition. The objection to prophecy is not that it is always wrong, but rather that the prophet is unable to say in any precise manner how he arrived at his forecast so that the logical or empirical basis can be evaluated. Predictions, on the other hand, demand the knowledge of a set of relatively precise relationships that impact on the event to be forecasted. Unfortunately this state of affairs rarely exists. The real systems in an individual agency are complex and can be described in analytical terms only after lengthy and costly research which is generally beyond the means of the agency heads.

Projection operates somewhere between prophecy and prediction and is the optimal tool available to forecasters. It is obviously important because of its planning implications, since it can extrapolate past or present trends into the future. There are two major limitations that must be recognized. First, projections assume that the future will be the same as, or similar to, the past. This assumption is more likely to be true in the short run rather than the long run. Thus, it may be feasible to predict a year ahead, but pointless to predict a generation ahead. Projection techniques are, therefore, best used as a basis for short range planning. Second, all projections are based on past data and these past data may, themselves, be subject to error. This criticism is

met principally by projecting within a band of values, the interval becoming larger as the estimates are more uncertain.

Projections provide likely estimates of future caseloads. For example, it is possible by estimating migration, birth rates and death rates to forecast the likely population of a jurisdiction five to ten years in the future. Similarly, recent studies of the National Center for Prosecution Management and the Bureau of Social Science Research (Jacoby et al, 1980) have shown a close relationship between felony caseload and assistant staff size. Such indicators could be useful in anticipating staff size changes. Projections can also be used to estimate the consequences of introducing change, since they measure the effects and estimate the likely consequences on one part of the system of the introduction ot change in another part. They are most reliable in showing future consequences if no changes occur.

All projections, however, require data. They gain force when they are based on relevant data gathered over an extended period of time. Data may be thought of as the foundation upon which the structure of forecasting is erected. Sound projections need sound data developed from descriptive statistics grounded in reality.

E. Adjudication Models

If relatively precise sets of relationships can be specified, then simulation models can be formulated. Simulations are more powerful than simple projections because they have the ability to classify processes Using variables identified as significant to the functions of prosecution and defense, a set of relationships can be formed which, in combination, will produce a series of relationships can be formed which, in combination, will produce a series of adjudication types that do not vary greatly in number among jurisdictions. Their frequency of use varies, however, since it is influenced by both policy and system resources.

Different types of adjudication systems can be created from the different configurations of the various process steps. In combination, they should yield differences in dispositional patterns and therefore, be defined as statistical models.

Intake can be distinguished by whether prosecutorial case review is performed by the agency and if it is, to what extent. Under transfer conditions, the prosecutor does not review cases before filing. The effect of this is to preclude prosecutor declinations and charge setting and diminish control over the gate into the adjudication system. In those jurisdictions where prosecutorial review of cases is performed, two conditions exist. Case review is minimal (usually to determine whether the case is legally sufficient), or it is extensive. Under minimal review conditions, proportionately more cases are accepted than would be expected if extensive case review was made. If extensive case review is undertaken, it is not possible to determine from the intake process alone what policy the agency is following (either trial sufficiency or system efficiency). Since both

policies require extensive case review, the determination of which is in effect can only be made after viewing the configuration of the subsequent process steps.

The accusatory process can be characterized with respect to whether it is a major dispositional vehicle (MDV) or not. Although this may not even be a matter of choice, the important characteristic is the extent to which it is used to dispose of cases pretrial. If the grand jury acts as a "rubber stamp", or if the probable cause hearing is an ex parte review of the issue of restraint of liberty or a pro forma preliminary hearing, or if the prosecutor files a bill of information directly without a preliminary hearing, the ability of the accusatory process to dispose of a high proportion of cases is unlikely. High disposition rates are more likely to occur in those jurisdictions where the probable cause hearing is extensive enough to permit a major sorting of cases so that some can be referred for misdemeanor prosecution, others dismissed for lack of prosecution and others accepted for felony processing. Distinguishing the accusatory process by whether it is a major dispositional vehicle or not indicates the power of this process step to sort cases by their anticipated dispositional routes, (diversion, other pretrial release programs, misdemeanor or felony prosecutions).

The trials process is distinguished by the extent to which discretion to negotiate pleas, make plea offers, divert or dismiss cases is given to the trial assistants or withheld and the extent to which an "open file" policy exists among attorneys. These characteristics distinguish the trial policy of the office. The discretionary offices have proportionately fewer trials and more pleas. If discretion is permitted, the work of the agency is aimed towards efficiency. If discretion is tightly controlled, the policy of the agency is to preserve the original charging levels (trial sufficiency) or to place controls about its modification. The amount of discretionary controls exercised at this last stage in the adjudication process is a strong differentiator between offices and characterized them as either plea oriented or trial oriented.

The post conviction area has special importance for prosecutors since their activity in it is generally discretionary while the defender's is not. It may be differentiated by whether or not sentence recommendations are routinely made by the office in distinguishing among types of adjudication systems. Sentence recommendations are important to the implementation of some policies (like ensuring the terms of a negotiated plea or the imposition of a desired sentence). Under other circumstances such as implementing a legal sufficiency policy it is not vital to its achievement. Figure VI-2 presents a summary of the various factors differentiating each of the process steps.

Because each of the processes can be characterized by a limited number of factors that have implications for both policy and operations, nine different (but not necessarily dispositionally distinguishable) combinations are logically feasible. (Figure VI-3) Not all combinations are logically consistent. For example, it is not likely that a system exists where cases are not reviewed by the prosecutor at intake, and the

FIGURE VI-2

MODELLING THE ADJUDICATION PROCESS:

COMPONENT CHARACTERISTICS

PROCESS	DISTINGUISHING CHARACTERISTICS		ABBREVIATION
INTAKE	1. No prosecutorial review before filing	--	TRANSFER
	2. Minimal case review (legal sufficiency)	--	MIN REV
	3. Extensive case review	--	EXT REV
ACCUSATORY	4. Major dispositional vehicle	--	MDV
	5. Not a major dispositional vehicle	--	NO MDV
TRIALS	6. Discretionary decisions allowed	--	DISC ALL
	7. Discretionary decisions controlled	--	DISC CON
POST CONVICTION	8. Sentence recommendations routine	--	SR
	9. No sentence recommendations made	--	NO SR

accusatory process is not a major dispositional vehicle. With no control over intake and no ability to sort out or dispose of cases at the accusatory level, theoretically all the cases would go directly to the trial process step. The chaos engendered by this type of procedure and its lack of system control presents a convincing argument for early system penetration by both the prosecutor and the defender.

Another model that is equally improbable is the combination of minimal review at intake, a pro forma accusatory process that does little sorting and selecting out of cases and a trials process that controls the discretion of assistants. The impracticality of this is based on the assumption that many marginal or even non-meritorious cases will have floated to the trial stage where the emphasis has to be on dispositions. To attempt to place controls on discretion under these conditions should only increase backlog and leave few routes for disposing of cases that never should have gone that far.

Intake practices clearly exert the most important influence on the entire system. In those systems where extensive case review exists, the largest number of choices of type of adjudication is available. At the other end of the process, the practice of participating in making sentence recommendations is a poor definer of a model type. In some situations, its requirement can be logically derived; in others, it cannot. Furthermore, any assumptions have to be qualified by the sentencing statutes and practices of the jurisdiction. The practices shown in Figure VI-3 thus are reasonably feasible and logical.

One can expect a little more certainty in those models where trial discretion is controlled. To the extent to which it implies an extension of the charging decision into the trials process, it also implies that participation in post conviction activities will also follow. If discretion is allowed, and assistants can dispose of cases generally as they deem fit, sentence recommendation is not mandated unless it is needed to carry forth the terms of the plea at sentencing.

As a result, nine different combinations can be constructed that are logically possible for the intake, accusatory and trials stages. Some of these may be so essentially similar that they can be collapsed. For example, the transfer and minimal review intake procedures may have a similar impact on the rest of the system. Thus, for example, systems #1 and #3 which start with either no intake (transfer) or minimum review, respectively, are coupled with accusatory processes that act as major dispositional vehicles. Subsequently, liberal discretion should be permitted trial assistants. Because of this the two procedures may produce similar dispositional patterns. Likewise, the imposition of discretionary controls on the same two intake and accusatory conditions (systems #2 and #4,) may indicate an adjudication system that has corrected itself at the accusatory level, thereby allowing the trial process to proceed on a more controlled basis and under stricter guidelines. Again, the dispositional patterns could logically be indistinguishable. Clearly systematic measurements need to be taken to verify these deductions. The combination formed by system #5 is one that, unfortunately, is endemic to many jurisdictions where there is minimal review at intake. Coupled with a pro forma accusatory

FIGURE VI-3

MODELLING THE ADJUDICATION SYSTEM:

FEASIBLE COMPONENT COMBINATIONS

ADJUDICATION SYSTEM TYPE	FEASIBLE COMPONENT COMBINATIONS			
	INTAKE	ACCUSATORY	TRIALS	POST CONVICTION
1	TRANSFER	MDV	DISC ALL	NO SR
2	TRANSFER	MDV	DISC CON	SR
3	MIN REV	MDV	DISC ALL	NO SR
4	MIN REV	MDV	DISC CON	SR
5	MIN REV	NO MDV	DISC ALL	NO SR
6	EXT REV	MDV	DISC ALL	*
7	EXT REV	NO MDV	DISC ALL	*
8	EXT REV	MDV	DISC CON	SR
9	EXT REV	NO MDV	DISC CON	SR

* Optional use

process, (for example, a grand jury with a high indictment rate), many cases are simply transferred to the trials process where dispositions are obtained in any way possible. Unlimited discretion clearly is favored. With this as a primary goal, the likelihood that the prosecutor participates in the postconviction area by sentence recommendation is minimal unless it is part of a plea negotiation.

The combinations displayed in systems #6 through #9, show that a wide range of policies is made available when cases are extensively reviewed at intake. System #6, with the accusatory process used as a major dispositional vehicle and discretion permitted trial assistants, can be classified as efficient. System #7 shows that how the accusatory phase is used is not necessarily important with intensive screening at intake. Both systems #6 and #7 are efficient if discretion is allowed trial assistants. Similarly, the use of sentence recommendation is optional. Systems #8 and #9 exhibit the characteristics of the trial sufficiency policy because of controls placed on discretion at the trial stage. Again, the practice of reviewing cases extensively at intake may overcome the need for a major dispositional outlet at the accusatory level. The discretionary controls placed on attorneys at the trial level would indicate a reliance on sentence recommendations if they are to be used to ensure the imposition of desired sanctions.

In conclusion, it appears that the adjudication process can be rationalized and described by a limited number of models that are derived from logically feasible combinations of the system's component process parts. It also indicates that definitional measures need to be attached to them. For example, what constitutes extensive review? Is it a function of the rejection rate? If so, what is a high rejection rate? Twenty percent? Eighty percent? What constitutes a major dispositional vehicle? What is controlled discretion and how is it dependent on the experience level of the assistants? To what extent is the sentence recommendation a function of prosecution or public defense? Is its importance crucial to the policy of the office or have recent legislative inroads in this area diminished its power?

The development of these conceptual models exposes some of the issues that need exploration in the future. For the present, however, this approach offers a way of examining the various adjudication systems to determine whether they produce distinctive dispositional patterns that will form the basis for evaluating performance.

F. Statistics

In summary, then, if a score sheet could be constructed to rank the application and uses of statistics in measuring performance, the utility of descriptive statistics would score the highest; evaluative and predictive statistics, the lowest. Statistics about the criminal justice system have come a long way from the decade of the sixties when the major debate was whether to count cases, defendants, counts or charges. That issue has been resolved as one jurisdiction after another has defined the unit to be the defendant involved in a criminal case. More recent research has developed case attribute measures to

indicate the seriousness of the offense, the legal and evidentiary strength of the case and the criminality of the defendant. These, supplemented by the gathering of some time and cost statistics, have both reaffirmed the problems and difficulties in obtaining them and reinforced their value for management and budgetary use.

The use of statistics for evaluation and projection is still limited by the absence of external standards. The few averages or norms that are available are uncertain in their stability, contain wide variation and do not necessarily indicate an optimal state. The standards imposed by such legislation as speedy trial laws have little relevance to the actual operations or performance of an agency, simply because they tend to operate as a ceiling under which agency work is conducted. What is needed is not only development of optimal external standards but the ability to compare agencies with others similar to them in policy and procedures. Until this comparative ability is gained, evaluations will suffer from these limitations.

The predictive area has been handicapped by two conditions. It has been very difficult to make projections based on comparable data either over time or over jurisdictions because of the basic inaccessibility of descriptive statistics and the short history of their collection. This problem appears to be lessening, especially as a systems approach is adopted for data collection and scales are developed that permit interjurisdictional comparisons. The ability to model these functions conceptually and in a way that transcends structural configurations is also helpful. It may in fact support new developments for classifying populations into homogeneous groups. Thus, as measurement techniques and concepts continue to be developed, their power and reliability increases for each one implemented.

VII. PERFORMANCE AS THE DELIVERY OF SERVICES [1]

A. Introduction

The Washington Post on Sunday, February 15, 1981 headlined a feature about Detroit that said curing its economic problems would involve one of two treatments; the first would inflict agony, the second, extreme pain. When the choices facing local governments are not where to cut budgets but how much, a new set of issues emerge for consideration.

These issues involve public agencies and their ability to provide mandated services (defined narrowly as those that are provided for by law or specified in the state (or Federal) constitution). The questions posed by many who have an interest in, or who have suffered from, cutbacks revolve around the basic issue of serviceability -- its definition, measurement, and interpretation.

If a performance measurement system is to serve only one purpose, it should be to measure the delivery of services by an agency and evaluate the level of service being provided. This chapter will present various approaches to defining levels of service and the problems involved in measuring them. It will discuss two dimensions of service, quantity and quality, that should be considered in deciding when an agency is no longer able to provide services and outline techniques useful in assessing this state. Public Administration Conference.

B. Defining Levels of Service

The problems associated with insufficient funds, financial embarrassments and incurred liabilities eventually give focus to the issue of funding discretionary or mandated services and as part of this issue, the need for some objective way to measure the adequacy of services delivered to the public. In response to reductions in revenues and after other funding sources are exhausted, local jurisdictions generally follow a pattern of first, reducing appropriations to discretionary services and then ordering reductions in mandated ones. The definitional problems of what are discretionary services as opposed to mandated ones; what legitimacy they have in making claims against the budget; and what mix of discretionary and mandated services should be maintained are critical. Indeed, these and other related criminal justice issues have been posed and examined by the auditor in Multnomah County (Portland) Oregon (Lansing: 1977) and contested in the courts by

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[1] This chapter was presented as a paper at the 1981 American Society for Public Administration Conference.

the Prosecuting Attorney in Wayne County (Detroit) Michigan. (93 Mich. App. 114, (1979)).

These issues and questions are too broad to be addressed here, but ultimately they ask a common question. Namely, after reductions in resources, how does one know when an agency can no longer sustain further reductions because it would be unable to provide services?

There is little controversy about the fact that sufficient funds should be made available to the prosecutor or public defender so they can provide services (whether mandated or discretionary). Controversy arises when attempts are made to define the level of these services and most importantly the minimum level below which one can say that services are not provided. In its decision reversing the trial court's finding that the Wayne County Board of Commissioners acted legally in ordering a fifteen percent reduction in personnel costs, the court described a serviceable level of funding as "the minimum budgetary appropriation at which statutorily mandated functions can be fulfilled." (93 Mich. App. at 124). It further stated that a serviceable level was not met when the failure to provide funds either (1) eliminated the function or (2) created an emergency that immediately threatened the existence of the function. It declared that a function funded at a serviceable level would be carried out in a "barely adequate manner" but it would be carried out. A function funded below this budgetary appropriation, by definition, would not be fulfilled as required by statute.

The court did not go beyond these broad statements to specify how these levels were to be measured or what criteria were to be established. As a result its omission leaves room for exploration and research; but its phasing hints at the directions it envisions will be followed in examining the concept of serviceability. The questions that need answers include: (1) What constitutes serviceability? Can it be defined? Can its component parts be identified? (2) How should serviceability be measured? What are the measures that should be used? (3) How do we find out when a function is not being carried out?

C. Measuring Serviceability

The answers may be sought from two perspectives, one using quantitative measures, the other, attempting to introduce a consideration of quality. Quantitatively, several approaches can be taken to address these questions. A "relevant constituency" approach (Connolly and Deutsch, 1978) would propose that standards of serviceability can be defined and measured by the degree of satisfaction expressed by the people who receive the service or are affected by it. Based on this type of approach, a preponderance of negative responses could be defined as violating the "barely adequate" level of service. There are two weaknesses in this approach. The first lies in trying to define what constitutes a relevant constituency; the second is defining what level of negative responses constitutes dissatisfacti

Does one measure satisfaction as expressed by police agencies, defendants, attorneys, the courts, corrections or the general public?

Since there is no closure to the sets within this universe of relevant constituents, the number of groups that can be formed and measured approach infinity. Similarly, arbitrarily setting a level of negative responses and defining that as dissatisfaction is at best easily and endlessly contested. This is even more certain when the conflicting interests and goals of the groups surveyed are considered. What is satisfactory to the public defender (or even the prosecutor) may be unsatisfactory to the public, for example,

A more practical approach would be to use cost analysis to measure levels of service. One could compute the difference between the resources available to a prosecutor's or public defender's office (including dollars, personnel, space and equipment) and the time and costs needed to perform functions. If these latter figures were derived from independent estimations, the difference between the actual and the estimated could be defined to indicate levels of serviceability.

However, merely knowing differences between actual and estimated costs would not by itself, establish minimum or "below adequate" levels. This is because there is no assurance that the estimates derived for the prosecution or defense measure what is "barely adequate" or what is optimum. In fact, it is more likely that they reflect some unknown level of service depending upon the resources available to the office or the procedures adopted. Despite these difficulties, this approach is less ambiguous than the relevant constituency one because a beginning and an end can be specified. It also lends itself to a measurement of identifiable units like the dollar costs and man hours required to perform certain tasks.

Levels of service could also be determined using system simulation techniques. A set of models could be developed that would predict when a function was eliminated or when an emergency was created. One such model would define this state as occurring when the equation between input and output was not in balance. This means that a prosecutor's or public defender's agency would be defined as functioning when the case input (I) plus the pending cases (P) is not larger than the output of the agency (O). This can be stated as $I + P < O$. When the sum of new and pending cases exceeds the output of the organization, then one could define the organization as being unable to carry out its functions (namely, dispose of caseload). In this case, $I + P > O$.

The tilt produced when the pending caseload exceeds the system's capacity to dispose of it could be rectified by either decreasing intake, $I < O - P$, (thereby letting the system "catchup") or by an increasing output capacity. The latter could be achieved in a number of ways such as increasing court capacity (and sometimes with it prosecutorial resources) or changing the mix of dispositions (using more plea negotiation, for example) or by adding new dispositional outlets to the system such as diversion, mediation, community service or other alternative treatment programs.

The difficulty with this particular model is that, analogous to the cost analysis approach, specifying the maximum output capacity of the adjudication system may be impossible. Unless this difficulty can

be overcome, solutions to the tilt will first call for increasing productivity as a means of increasing capacity. Certainly, this is a valid point. It was affirmed in Orleans Parish in 1974 when the output capacity of the court system was in effect doubled because the judges started working a full day, and it was reaffirmed in our recent evaluation of Brooklyn's felony nighttime jury trial project which showed that productivity in the night court was one and one half times higher than that estimated for the day time courts. Part of this could be attributed to the simple fact that more hours were worked in the evening session than the day.

Nevertheless, there are limits to increasing productivity. When these are reached, then priority decisions have to be made such as when the Wayne County Prosecutor, among other actions, shifted the attorneys from the juvenile section to Recorders Court (the adult felony court) to meet the demands of the volume of work. In reality, prosecutors and public defenders continually adjust their resources to the shifting areas of workload or priority. This makes identification of maximum efficiency and productivity very difficult.

Because the maximum capacity of the system is probably impossible to define, another approach adopted by prosecutors and public defenders is to use either national or comparative standards to measure (1) the amount of difference from the norm that their office displays; or (2) the probability of this occurring based on the experience of other jurisdictions. Since the resources and expenditures of an office remains fairly stable over time, comparisons and standards remain relatively constant as well. These data describe the operating levels of adjudication from which means and standard deviations can be computed so that probability statements can be made about the likelihood of deviations occurring too far from the average.

For example, a 1980 survey of prosecutors, (Jacoby, Mellon, Smith, 1981) found that the average number of jury trials that can be disposed of by a single judge was 24 per year. In Brooklyn, it was recently reported as 16. Although these averages reflect only operating norms, they do exist within a universe of bounded rationality (Simon, 1957). For example, it would be highly unlikely that trial judges could triple or quadruple the average. Limits can be applied to the norms.

Ratios also can serve as standards. Based on a survey of over 700 jurisdictions, the ratio of the number of prosecutor's assistants in an office to the number of felony cases annually processed by the office for prosecution has, since 1972, covered about 1 to 100. In 1972 (Jacoby, 1972) the ratio was 1 in 99. In 1980 (Jacoby, Mellon, Smith, 1981) the ratio was 1 in 96. This means that about one assistant should be on staff for every 100 felony cases processed by the office. The public defender is not immune to these standards either: one assistant public defender is recommended for every 150 felony defendants per year. (NLADA, 29;NAC, Courts, 19).

Comparing output capacity to national averages and standards is helpful in assessing the ability of an agency to provide services. The standards reflect normal operating conditions and thus, give perspective

to the requests of an individual prosecutor or public defender for more (or the same) amount of resources. But, these comparisons are not sufficient to determine when services are inadequate.

D. Introducing Quality as a Factor

One reason is because in addition to volume, time and cost, the quality of the services being provided must be taken into consideration. Quality adds another set of standards that can be used to assess the adequacy of service. These standards would not condone allowing a rapist to plead guilty to a disorderly conduct misdemeanor and pay a fine; or incarcerating a youthful, first offender for joy riding. Although these are extreme examples (and sometimes unfortunately they may occur), they suggest that there exists a range of dispositions that can be labelled as acceptable for different types of criminal cases. For our purposes here, quality can be defined as the ability to achieve minimally acceptable dispositions, or better.

Acceptable dispositions are essentially those that match the sanction with the seriousness of the offense and the criminality of the defendant. They can be thought of as a band of dispositions; some preferred, some acceptable and some only barely acceptable. Below this barely acceptable level are dispositions that can be called "not acceptable". Above the preferred band is another "not acceptable" set. Violating the lower band constitutes injustice to the public; violating the upper band does injustice to the defendant. With this rule, the prosecutor's and public defender's interests are made clear. It involves the ability of a prosecutor's or public defender's agency to obtain minimally acceptable dispositions. These are defined to include either the lowest band or the upper one. For semantic simplicity, both concepts will be referred to as minimally acceptable levels, below or above which justice is denied.

When the minimal acceptable levels of dispositions cannot be obtained, then one can claim that service is not adequate. This implies that the quality of dispositions is a function of two variables: an expected disposition (plea, acquittal, dismissal) weighted by an expected sanction. The two are not independent of one another. Charging decisions, plea negotiations and trial tactics all take into consideration the potential sanctions that one can expect to be imposed on the defendant. These expected levels and sanctions will vary by defense and prosecution functions; but, because the relationship between these two agencies is reinforced by daily contact and communication, wide discrepancies in expectations should not exist.

If it were possible to identify and measure the least acceptable dispositions, then one could argue with strong justification that an agency which consistently violates the minimally acceptable standards is not providing adequate services to the public or its clientele. Acceptable dispositions are not an unknown phenomenon. They are articulated daily by prosecutors and public defenders as they "bottom line" cases, decide the "best offer" or command, "hang tight and go all the way". The win or loss of a case in these agencies is not simply the

difference between acquittal or conviction but is measured more often by the sanctions imposed upon the defendant. Thus, whether a case falls below a minimum acceptable level is capable of definition and quantification. The primary reason why such a task appears to be feasible, is because the dynamics of the adjudication system are rational and consistent, ordering its caseload and work by a set of priorities. A nationwide testing of 855 prosecutors in 15 jurisdictions showed that the priority of cases for prosecution had a significant effect on the probability of cases being:

- accepted for prosecution -- the higher the priority, the more likely acceptance

- disposed of by a trial, plea or other means -- the higher the priority, the less likely a plea or non-trial disposition, the more likely a trial

- disposed of by a plea to a reduced charge -- more likely for lower priority cases

- ending with a sentence of incarceration -- the higher the priority, the more likely imprisonment. (Jacoby, Mellon, Ratledge, Turner, 1980)

These priorities as expressed by a single number include all three dimensions of a criminal case -- the seriousness of the offense, the criminality of the defendant, and the legal-evidentiary strength of the case. They describe relationships to dispositions. The most serious crimes receive the highest priority: likewise the criminality of the defendant. Priority is affected by the legal and evidentiary factors of the case. If constitutional issues are involved, for example, a poor search and seizure or the defendant's Miranda rights were not read, the priority of the case is decreased. In contrast, priority is increased if there is corroboration by two or more police and/or civilian witnesses, the defendant admits to an involvement in the crime, the defendant is known to the victim and there is a gun involved. Based on these factors, it is possible to rank cases by their dispositional priority and the severity of their expected sanctions.

Furthermore, the priority groupings reflect both dispositions and sanctions. On a scale of 1 to 7 (with 1 representing the lowest priority, 4 an average, and 7 top priority) workload in an office follows a predictable trend. Cases falling into the lowest priority group (1 and 2) tend to be declined at intake and not even accepted for prosecution. Cases in the middle, 3-5 range tend to be disposed of by pleas, with pleas to a reduced charge occurring at the lower (3) end and pleas to an original charge more likely to occur at the 5 level. Friority cases, the 6's and 7's tend to be disposed of by trial.

When this rational ordering is applied to the results of a survey of almost 100 prosecutors offices (Jacoby, Mellon, Smith, 1981), disposition rates could be attached to these same priority groupings. They show that there is an almost immutable 9 percent of the caseload that is disposed of by trials regardless of volume and that trials are

reserved for the top priority cases (6, 7). For those offices who review charges (and 15 percent of those surveyed do not) an average of 20 percent of the cases referred by the police are declined at intake and these are found in the lowest priority group (1 and 2). Of the remainder (the 3-5 group) 49 percent are disposed of by pleas, some reduced, some to the original. Figure 1 displays the relationship between priority, type of disposition, and the average percents of dispositions. (Most of the difference between these average disposition rates and 100 percent is due to dismissals).

FIGURE VII-1

RELATIONSHIP BETWEEN PRIORITY FOR PROSECUTION, TYPE OF DISPOSITION AND RATES

Percent	PRIORITY						
	1 Lowest	2	3	4	5	6	7 Highest
Accepted for prosecution.....	25	69	87	95	96	98	98
Disposed by:							
Plea	76	76	77	72	50	32	20
Trial	9	10	13	20	42	59	78
Plea to reduced charge.....	43	46	56	56	45	29	13
Incarcerated	18	23	36	62	86	97	99

Source: Prosecutorial Decisionmaking: A National Study. (Jacoby, Mellon, Ratledge, Turner, 1980)

This combination shows how the adjudicatory disposition system aligns its resources to meet priorities. Now, assuming that this system is fairly stable and that cutbacks have been imposed upon the agency, we can speculate as to some of its reactions. If the prosecutor or the public defender, for example, refuses to change his procedures or policies, (for example, if he has a strong trial emphasis and a no plea bargaining stance), then with a lack of resources, a backlog should develop. Input should exceed the output and cases will be lost either through dismissals because of speedy trial rules being violated, or because the evidentiary strength of the case decays over time. When that begins to occur, a change has to be made. In this example, the most likely one is to relax the no plea bargaining stance and dispose of more cases by pleas. However, when the changes are too great, when the burglar who has been arrested for the third time is allowed to plead to a misdemeanor or when the dismissal rate continues to increase, the agency begins to violate the acceptable standards of justice.

Figure 1 indicates how accommodations to cutbacks can occur. If the present declination rate in the office is low, it may be increased. If the office, for example, is operating at a 10 percent declination rate, it may be possible to increase this to 20 percent or even 30 percent with more intensive screening. This means that the system would be rid of all cases in the 1-2 priority category and start to cut into the cases that are labelled 3. The rate of dispositions by trial might be decreased if the percent is above the relatively constant 9 percent. For example, if the trial rate is 20 percent, an expanded use of negotiated pleas could be encouraged to reduce this resource consuming level to 10 percent. Graphically, this would mean moving some of the 4 or 6 priority cases into the plea range and out of the trial range. Finally, of course, the use of plea bargaining in the middle range (3-5) can be made more efficient and timely by negotiating pleas earlier in the system.

At first, all of this can probably be done without conflict because it merely means changing policy or lowering standards without violating the quality of the prosecution or the defense. However, as the agencies are put under more intensive pressure to cutback, they are more and more prone to violate the boundaries of acceptable dispositions.

E. The Reality of Measuring Levels of Service

To return to our original question how does one know when a prosecutor's or public defender's office is unable to provide services? As we have seen here, adequate levels of service can be defined to exist when two conditions are satisfied (1) the agency can dispose of

its input; that is, intake and pending cases do not equal or exceed dispositions and (2) the dispositions are reasonable; that is, they are at least minimally acceptable by the chief prosecutor or the public defender. Conversely, there are two ways to define a prosecutor or a defender agency as providing inadequate services. First, it violates the quantitative conditions such that its caseload cannot be disposed of; and second, it violates the qualitative conditions so that the distribution of its dispositions does not correspond to the urgency of the cases for prosecution or defense and their acceptable sanctions.

Ideally, to define what constitutes a barely adequate level of service, one should be able to specify the quantitative and qualitative dimensions. This means that: (1) output capacity and resources have to be measured to determine whether an agency can dispose of its caseload; and (2) the actual dispositions need to be tested against minimally acceptable dispositional standards. Unfortunately, based on current levels of research and knowledge, we are not able to do this.

However, there are some options that a prosecutor or public defender may substitute as reasonable alternatives to this ideal state. To satisfy the quantitative rule, the following procedures could be undertaken: (1) Within the office, measure the volume of caseload being disposed, by type of dispositions and the volume of cases referred to the office in addition to the number of cases currently pending. Parenthetically, this should be done in all areas serviced by the prosecutor or public defender because, as we noted, the resources in one area may be transferred to another, thereby creating inadequacies in the area not under primary attention. (2) These measures of caseload and associated resources can be compared to other jurisdictions who operate in similar environments or they can be compared to some nationwide norm (such as we noted with the number of assistants per felony intake). The extent of deviation from these operational norms may lend support to the argument that the services are being denigrated. (3) There are some standards against which the gap between the reality of one office and the goals as expressed by professionals in the field can be also utilized. One of the most commonly used standards is, of course, the length of time from arrest through disposition and as articulated in speedy trial rules.[1]

The use of the quantitative rule does not consider quality as a factor. Indeed, some prosecutors or public defenders would argue that if quality were changed, then, this by itself would constitute a disservice to the public or the client. Setting this point aside, however, the evaluation of serviceability based on standards of quality

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[1]A note should be made here that one should not use as an indicator of serviceability the number of cases that are very old (Church, 1978) or fall in the fourth quartile. The difficulty with this indicator is that it is not a true measure of the quality of services since many of these cases are old simply because they should never have been in the system, have been through an evidentiary decaying process or are so complicated or complex and of such low priority that they should simply be dismissed.

also can be approached in a number of ways. Most detailed is to review each disposition and evaluate whether it is acceptable to the office. This can be done subjectively by senior policymakers or objectively, based on some rules or criteria. In its simplest form a count of those dispositions not meeting acceptable levels and a computation of their proportion to all cases disposed will provide indicators of the extent to which quality is being changed (or denigrated).

Another way to obtain this indicator is to count certain classes of dispositions, especially dismissals and/or nolles for speedy trial violations, witness no shows, evidence missing, government or people not ready, or complaining witness or arresting police officer not present. These and other reasons similar to them reflect problems with case management associated with delay and, implicitly, cutbacks in resources.

Another technique that can be used to assess the dynamics of quality and to identify decay is to periodically assess the dispositions with respect to their priority. If the caseload, spread along the continuum illustrated here, has shifted drastically over time, the quality may be deteriorating. For example, if a higher proportion of the low priority 1's and 2's are being accepted for prosecution or if plea cases in the 4-5 range are moving into a trial status, then concern should be given to the balance in the system. By examining dispositions based on their priority ranking, an agency head should be able to track the consistency between priority and resources.

This technique begs the question of acceptable dispositions. That calls for the development of a system specifying a range of dispositions and sanctions acceptable for certain types of cases. Much like sentencing guidelines, deviations from the acceptable band would be allowed with justification, but the frequency could be noted and reported as part of the quality assessment.

All of this, of course, points up the complexity that is involved in this issue called serviceability. Given the present state of research and data collection there is too little knowledge or data to advance beyond these techniques and clearly, there is need for a long range, systematic development and study of this complex issue. Serviceability is"an issue that will remain important to contemporary society for a long time. As more and more remedies for inflation are sought through the use of cutback management, the development of measures and techniques for evaluating the functions of the prosecutor and the public defender along with other public service agencies is becoming increasingly urgent. Along with this is the clear need for continued research and work in developing productivity measures that incorporate the quality of the justice being dispensed with the quantity.

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APPENDIX A

TOWARD A COMPOSITE INDEX OF CRIMINALITY

Stanley H. Turner
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TOWARD A COMPOSITE INDEX OF CRIMINALITY

Stanley H. Turner

Edward C. Ratledge

A. Introduction

Current research on prosecutor's decisions and decisionmaking systems has been based on the assumption that decisions can be explained by using three variables: (1) the seriousness of the instant offense, (2) the prior record of the defendant, and (3) the evidentiary strength of the case (Jacoby, Mellon, Turner, Ratledge, 1980). An index measuring the first of these variables has been fairly well established based on the work of Sellin and Wolfgang (1964) which describes offense seriousness sufficiently for decisionmaking research. In contrast, the second and third variables require a fresh start. A search of the literature failed to reveal a single study in which the "criminality" of an offender's prior record could be assessed on an internal scale. Yet, its value and utility to researchers and practitioners alike is obvious. Similarly, little attention has been given to developing scales that measure the legal-evidentiary strength of cases (Mellon, 1980).

The single purpose of this paper is to report on the development of an objective measure of criminality that reproduces the judgments of experienced prosecutors as to the overall criminality of an offender. Its focus is explicitly on the prior record of the offender and it includes only variables typically found in a criminal history. Thus, the current offense, the type of defense, the offender's background and other variables have been excluded from consideration. The result is a provisional composite index of criminality that can be applied to any criminal history so that its relative seriousness can be measured.

B. Background

The use of criminal histories in criminal justice decisionmaking processes is a sensitive area and one replete with ethical considerations. In general, four positions are held with respect to the use of prior records.

1. The prior record of an offender should never be used in making decisions about the defendant under any circumstances.-- This is equivalent to saying that the prior record should not be collected at all. It represents a position that no information is, at least in this instance, ethically superior to some information. This position might be motivated from the belief that the information may not be accurate, that the defendant may not have really been guilty, or that, even if truthful, information about the past should not be used for present decisions.

2. The Prior record of an offender should always be used

against him.--This represents the belief that the past can always be used to evaluate the present. In its extreme form, no criminal record should ever be expunged.

3. The prior record of an offender should be used only by the prosecutor and the courts in making a decision about a defendant.--The emphasis is not on the question of whether it's just or unjust for others to use criminal histories but rather whether it's just for the criminal justice system to use the information in the prosecution and sentencing of the defendant.

4. Only part of the prior record of the offender should be used by the criminal justice system in making decisions about the offender.--This position would allow access only to the segment of a prior record where the defendant was convicted. Segments of the prior record that do not have findings of guilty, i.e., acquittals, dismissals, and findings of not guilty, should be removed.

The first two positions are discussed indirectly in Punishment Response (Newman, 1978) where somewhat similar issues are discussed within the framework of contemporary criminology. This paper, assumes the third position, namely, that it is legitimate for a prosecutor to possess and act upon the prior record of the defendant. Additionally, it indirectly addresses position 4, the difference between total and partial disclosure, by examining whether prosecutors make different decisions when they have a complete criminal history or an incomplete one that records only findings of guilt.

C. Design

The study originally was started with a sample of prior records based on real criminal histories held by the state of New Jersey. All identifying information was eliminated from the histories, thereby producing an edited file of prior records containing essentially a sequence of offenses characterized by the date of commission and the disposition. A second edit eliminated offenses which were peculiar to a limited number of jurisdictions, since we wanted a jurisdictionally independent data set based on real cases.

These criminal histories were tested by two groups--college students and a small sample of prosecutors. None of the prosecutors and only a few of the students had difficulty in ranking the criminal histories by order of seriousness. The major difficulty encountered by some students was their inability to comprehend the legal label. The titles were again edited into clear equivalence. For example, a prosecutor might be very familiar with DUI, Driving Under the Influence, whereas this title would seem arcane to a student. Each subject was asked to indicAte the seriousness of the record on a equal step scale ranging on the first test from 1 to 11, then on the second from 1 to 7 and finally, 1 to 5. The experimental data showed that the same amount of information is contained in a scale with 5 steps as a scale with a greater number of alternatives. In fact, the difficulty involved with offering a greater number of alternatives is that the subject views the

task as arbitrary and cannot decide between a 9 and a 10, for example.

The results of the pretest indicated that the experiment was feasible and that better results could be achieved by developing a simulated set of criminal histories. The advantage of using simulated data lies in the fact that the variables to be tested are completely under the control of the experimenter. The exact variables that have been admitted into the equations are known as are their distributions. As a result, precise statements can be made in every case about what combinations of variables generated each history. This advantage is not true if a sample of cases derived from the real world is utilized. The general analytical design, then, was to sample real records; pretest them on available groups; examine the results and hypothesize what variables work; specify these variables; find their distribution; and thus generate a fully simulated set of prior records. Of course, there is no absolute technique for generating all of the relevant variables. Theory, guess work, trial and error, all contributed to the generation of a list of plausible variables that were to be tested for their ability to distinguish the seriousness of one prior record from another. These variables were classified into four groups.

1. Length of record.--It seemed reasonable that, all other things being equal, a longer record would be more serious than a short one. Thus, criminal histories should vary from a minimal length which is zero (a person with no prior record) up to a realistic length.

2. Seriousness of each offense listed in the prior record.--All other things being equal, a prior record containing more serious offenses should rate higher than one having less serious offenses.

3. Dispositional information.--Dispositional information included the outcome of the case but not the sentence. Arrests with convictions were assumed to be more serious than arrests with acquittals.

4. Patterns.--Although two prior records may have the same seriousness and indeed the same length and identical disposition information, it was assumed that they would be different because of the progression of the events involved. After some investigation, however, the complexity of this variable could not be overcome. Therefore random patterns were used in this experiment. (It is interesting to note that some who evaluated these criminal histories insisted that they saw patterns in the records even though they were truly randomized.)

5. Time.--It was assumed that prosecutors view offenses committed a long time ago as less worthy of concern than more recent crimes. In a sense one could assume the operation of a discount rate; that is, the human tendency to forgive offenses committed in the past. Each offense was characterized as having an age, i.e., the number of years since it was committed. Further, the amount of time between offenses (spacing) was considered. Some prior research in the field has indicated that if there are lengthy periods between

offenses, the probability of recidivism is lower. Additionally, time between offenses in which the offender was not institutionalized had to be accounted for. The effects of time and spacing are not addressed in this paper since they are still under investigation.

D. Simulation

Computer programs were written to generate the criminal histories and the independent variables described above. Because of this simulation approach, only the measurement of the dependent variable was required. The program was designed with eight different random number generators. The generator in all cases delivered a number between 0 and 1 on a uniform probability distribution. Each chosen value was multiplied by 100 and then was mapped into one of the distributions related to the variable of interest. The first random variable governed the length of the record. The range of this variable was 0 to 15. The mapping distribution for length was: 0 equal 7%, 1 equal10%, 2 equal 13%, 4 equal 10%, 5 equal 10%, 6 equal 10%, 7 equal 7%, 8 equal 6%, 9 equal 5%, 10 equal 3%, 11 equal 3%, 12 equal 2%, 13 equal 2%, 14 equal 1%, 15 equal 1%.

With the length determined, the next variable to be generated was the proportion of the total events which would be crimes against the person (CAPERS). The mapping distribution for CAPERS was: 10% equal 5%, 20% equal 10%, 30% equal 15%, 40% equal 20%, 50% equal 15%, 60% equal 10%, 70% equal 10%, 80% equal 5%, 90% equal 3%, 100% equal 2%. This distribution is interpreted as "10% of the criminal histories will have 5% of the events as CAPERS" likewise 2% of the criminal histories will have all 100% of the entries, as CAPERS. As in all other cases, these distributions were derived from the Uniform Crime Report. Once the number of crimes against the person was determined, the number of "all other crimes" (CNPERS) was also set. It represents the difference between the total number of arrests and number of arrests for crimes against the person.

The third random number generator was used to make sure the order of crimes on the sheet was random (without pattern). The probability of CAPERS or a CNPERS was set at .5 and as long as there were patterns within these histories, they were generated only by chance.

The fourth generator determined which of the CNPERS was chosen. The mapping distribution derived from the UCR was as follows: Burglary equal 12%, Larceny equal 22%, Auto Theft equal 5%, Arson equal 1%, Disorderly Conduct equal 12%, Forgery equal 7%, Receiving Stolen Property equal 2%, Concealed Weapon (Deadly) equal 6%, Possession of Heroin equal 3%, Possession of Marijuana equal 4%, Sale of Heroin equal 3%, Sale of Marijuana equal 3%, Drunkenness equal 7%, Drunk Driving equal 8%.

The fifth generator determined which CAPERS was chosen. The mapping distribution used was as follows: Homicide equal 3%, Rape equal

3%, Robbery equal 11%, Aggravated Assault equal 24%, and Assault equal 59%.

A sixth generator was used to select disposition for "CAPERS" and "CNPERS." The mapping distribution was Dismissals equal 31%, Convictions equal 65%, and Acquittals equal 4%. This distribution was based on the results of A Cross-City Comparison of Felony Case Processing, conducted by Kathleen Brossi for the National Institute of Justice in 1979.

When the complete criminal record was selected, two things remained. First, spacing had to be established between entries on the criminal history and second, a birth date had to be determined. These functions were handled by generators seven and eight. Generator seven determined the month of the last event and eight determined the spacing. This was also coordinated with a distribution for the likely amount of jail time if the defendant was convicted of any of the crimes.1 The dates are generated backwards with the final calculation being the birth date of the defendant.

In the final run, 9,000 criminal histories were simulated of which 6,778 were evaluated by the Kings County (Brooklyn) New York District Attorneys Office. During the experiment each of 226 attorneys rated a set of 30 criminal histories on a seriousness scale of 1 to 5. The test were conducted in the Spring of 1980.

E. Analysis

Three models are presented here. The first model employs a variable for the length of the record; a separate dummy variable for each crime that the individual was arrested for; and a dummy variable for each crime that resulted in a conviction. This procedure yielded a total of 41 variables for analysis. This model is concerned only with whether the person was ever arrested or ever convicted of a given crime without the number of times. Separate analyses were also carried out with a continuous variable for each crime but the distributions were quite skewed.2

The results for the first model are found in Table A-1. The explained variance is 61% which is quite satisfactory given the fact that the dependent variable is discrete (1 to 5). The overall model is significant at the .001 level (F equal 256).

1. The coefficient for length is only .07 which means that the length of the record, by itself, can only shift the criminality index by

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[1]Annual Report of the Proceedings of the Judicial Conference of the United States, p. 268, U.S. Govt. Printing Office.

[2]Originally we had anticipated using Sellin-Wolfgang scores for each offense but since this is equivalent to using dummy variables for each crime it was not employed.

1 unit on the 1 to 5 scale (.07 x 15).

2. Among the arrest variables only certain crimes are significant, at least in the view of this group of attorneys; (1) Homicide, Robbery, (2) Aggravated Assault, (3) Assault (4) Disorderly Conduct (negative sign), (5) Possession of Marijuana (negative sign), (6) Sale of Marijuana (negative sign), (7) Drunkeness (negative sign), (8) DUI (negative sign). For the major violent crimes (with the notable exception of rape arrests) the effect is to increase the index. For the relatively trivial offenses, the effect is to decrease the index.

3. The conviction variables are for the most part significant, and some of the contrasts with arrest coefficients are striking. Homicide has a coefficient of 1.09 if convicted and .35 if arrested. A rape conviction has a score of .86 but an arrest without conviction has no value at all. Convictions for assault and aggravated assault are weighted equally at .50. Auto theft (.13), fraud (.14) and forgery (.12) have similar coefficients. Of interest is the fact that an arson conviction (.60) is viewed as a very serious matter. Based on past experience, this apparently reflects the inherent possibility of serious injury. Carrying a concealed deadly weapon also has a relatively large score (.5) which places it in the same category with robbery, assault, and arson. Convictions for the possession of drugs are important, but arrests are not. For convictions, heroin possession (.30) is about 3 times more important than marijuana (.11). Sales of heroin are twice as important as possession of heroin (.59 versus .30) but marijuana sales are of the same magnitude as possession (.11 versus .10). Basically, the alcohol (.15) and marijuana related offenses are viewed as equivalent and not important.

The second model, shown in Table A-2, omits all of the arrest variables and considers only convictions. For all practical purposes, the explained variance is unchanged with the removal of these variables. This model in our opinion is superior since it is simpler. The coefficient for length of record remains about the same (.066), however each of the other coefficients increase in value but the general order of importance remains the same; (1) Homicide, (2) Rape, (3) Robbery, (4) Arson, (5) Assault, (6) Sale of Heroin, (7) Concealed Deadly Weapon, (8) Burglary, (9) All others. It is clear that there is an implicit ordering with respect to the implied level of injury.

These results suggest that it is possible to numerically evaluate a criminal history.

A operational model is estimated for this purpose and is shown in Table A-3. These results are then translated into an index by a process of answering a series of questions that have weights attached to them. This follows:

CRIMINALITY SCORE, CRIME CONVICTION SCORES, AND EXAMPLE

QUESTION	Add the following numbers if answer is: YES	NO
1. Has the defendant ever been arrested?	25	
2. Has the defendant ever been convicted?	84	25
3. How many convictions (enter number multiplied by 19 under yes)	____	
4. How serious were the crimes for which the defendant was convicted? Add all conviction numbers applicable, enter under yes column (see table below)	____	
TOTAL CRIMINALITY SCORE	____	

CRIME CONVICTION SCORES

Homicide.....	125	Larceny.....	- 3
Rape.....	74	Forgery.....	- 3
Arson.....	57	Receiving Stolen Property.....	- 3
Robbery.....	56	Fraud.....	- 8
Sale Heroin.....	40	Possession of Heroin.....	- 9
Aggravated Assault.....	31	Auto Theft.....	- 9
Carrying Concealed and Dangerous Weapon (CCDW).....	26	Sale of Marijuana.....	-15
Assault.....	22	Driving While Intoxicated.....	-18
Burglary.....	18	Drunk.....	-26
		Disorderly Conduct.....	-26

EXAMPLE: If a defendant has been convicted of Burglary, Homicide and Disorderly Conduct, the criminality scores would be calculated as follows:

Arrested (yes)	25	
Convicted (yes)	84	
Number of Convictions (3).....	57	(3 x 19)
Burglary (yes)	18	
Homicide (yes)	125	
Disorderly conduct (yes)	-26	
TOTAL.....	284	

F. Conclusions

The index as currently constructed, has several shortcomings. First, we have not as yet dealt with the spacing or decay factors in evaluating the criminal history. This work is on-going but the results at this time are inclusive. Second, we would like to expand the index to incorporate multiple convictions for the same crime although there are clearly non-linearaties involved and the index will become more complex. Third, we have not allowed "attempts" in the simulated histories, thus they cannot be rated in the index. These will be included in subsequent applications of this work. Fourth, while we feel from our work in a large number of sites that jurisdictional differences are generally overstated, the fact remains that we must administer the instrument outside of Brooklyn for validation. Finally, we chose not to deal with incomplete information. Not all criminal histories have complete dispositional information. Thus the effects of operationalizing the index where conviction information is missing may be significant.

Despite these limitations, this provisional index is clearly a good first step towards a composite measure of criminality.

TABLE A-1

MODEL 1: ARREST AND CONVICTIONS

VARIABLE	B	F *
Length of Record	.072	118.802
Arrests: Homicide	.345	24.379
Arrests: Rape	.039	0.322
Arrests: Robbery	.054	1.774
Arrests: Aggravated Assault	.056	2.912
Arrests: Assault	.101	11.376
Arrests: Burglary	.010	0.089
Arrests: Larceny	-.036	1.314
Arrests: Auto Theft	-.027	0.359
Arrests: Arson	.114	1.189
Arrests: Disorderly Conduct	-.067	3.751
Arrests: Forgery	.032	0.425
Arrests: Fraud	-.049	1.372
Arrests: Receiving Stolen Property	.052	0.554
Arrests: CCDW	-.033	0.585
Arrests: Possession Heroin	-.043	0.733
Arrests: Possession Marijuana	-.193	15.602
Arrests: Sale Heroin	-.011	0.036
Arrests: Sale Marijuana	-.086	2.156
Arrests: Drunkenness	-.246	35.677
Arrests: DUI	-.138	13.281
Convicts: Homicide	1.095	173.300
Convicts: Rape	.864	108.927
Convicts: Robbery	.724	246.599
Convicts: Aggravated Assault	.503	205.336
Convicts: Assault	.500	304.671
Convicts: Burglary	.375	102.186
Convicts: Larceny	.254	60.296
Convicts: Auto Theft	.132	6.295
Convicts: Arson	.599	23.452
Convicts: Disorderly Conduct	.006	0.024
Convicts: Forgery	.116	3.972
Convicts: Fraud	.144	9.348
Convicts: Receiving Stolen Property	.050	0.351
Convicts: CCDW	.501	100.790
Convicts: Possession Heroin	.302	25.638
Convicts: Possession Marijuana	.113	3.879
Convicts: Sale Heroin	.594	79.651
Convicts: Sale Marijuana	.098	2.016
Convicts: Drunkenness	.151	10.266
Convicts: DUI	.134	9.667
(CONSTANT)	1.621	-----

$R^2 = .609$ $F(41, 6736) = 256$

$F_{.01} = 1.5$

TABLE A-2

MODEL 2: CONVICTIONS ONLY

VARIABLE	B	F
Length of Record	.066	181.833
Convicts: Homicide	1.446	862.614
Convicts: Rape	.918	338.880
Convicts: Robbery	.788	742.218
Convicts: Aggravated Assault	.565	590.279
Convicts: Assault	.582	749.695
Convicts: Burglary	.383	236.821
Convicts: Larceny	.221	102.790
Convicts: Auto Theft	.113	12.072
Convicts: Arson	.692	100.813
Convicts: Disorderly Conduct	-.051	4.261
Convicts: Forgery	.152	18.168
Convicts: Fraud	.099	11.359
Convicts: Receiving Stolen Property	.106	4.567
Convicts: CCDW	.470	234.520
Convicts: Possession Heroin	.255	48.872
Convicts: Possession Marijuana	-.072	4.188
Convicts: Sale Heroin	.579	201.747
Convicts: Sale Marijuana	.026	0.417
Convicts: Drunkenness	.074	6.237
Convicts: DUI	.009	0.111
(CONSTANT)	1.629	-------

$R^2 = .602$ $F(21, 6756) = 487$

$*F_{.01} = 1.8$

$F_{.05} = 1.5$

TABLE A-3

MODEL 3: OPERATIONAL VERSION

VARIABLE	R	F*
Convicts: Homicide	1.249	725.028
Convicts: Rape	.744	251.329
Convicts: Robbery	.564	390.901
Convicts: Agg. Assault	.311	167.152
Convicts: Assault	.221	86.815
Convicts: Burglary	.177	51.253
Convicts: Larceny	-.028	1.603
Convicts: Auto Theft	-.089	8.018
Convicts: Arson	.567	78.221
Convicts: Disorderly Conduct	.263	115.365
Convicts: Forgery	-.027	0.617
Convicts: Fraud	-.082	8.310
Convicts: Receiving	-.030	0.417
Convicts: CDW	.261	77.029
Convicts: Possession Heroin	-.089	6.590
Convicts: Possession Marij	-.259	59.184
Convicts: Sale Heroin	.399	107.844
Convicts: Sale Marij	-.154	15.905
Convicts: Drunkenness	-.261	82.892
Convicts: DUI	-.176	43.172
# of convictions	.189	437.551
Ever arrested	.248	27.137
Ever convicted	.841	450.768
(CONSTANT)	1.002	--------

$R^2 = .661$ $F\ (23,6754) = 571$

$*F_{.01} = 1.8$

$F_{.05} = 1.5$

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