



www.npcresearch.com

Enhancing Cost Analysis of Drug Courts: The Transactional and Institutional Cost Analysis Approach

Dave Crumpton, M.P.A.

Shannon Carey, Ph. D.

Michael Finigan, Ph. D.

NPC Research
4380 SW Macadam Ave., Ste. 530
Portland, OR 97239
(503) 243-2436
Fax: (503) 243-2454
E-mail: Finigan@npcresearch.com

October 2004

Table of Contents

<i>Abstract</i>	1
<i>Introduction: The Place of Cost Analysis in Program Evaluation</i>	2
Cost Analysis and Drug Courts	2
The Challenge of the Definition of Cost	3
The Challenge of Organizational Complexity	3
Supporting Cost Determination With Organizational Analysis	4
Program Development and Institutional Transformation	5
<i>The Transactional and Institutional Analysis Approach (TICA): A Response to the Challenge of Cost Analysis Amid Organization Complexity</i>	6
Understanding Cost-Benefit Analysis on the State and Local Level	6
TICA and the Application of CBA to Local Programs	8
Theoretical and Practical Grounding of TICA	10
Summary of the Theoretical and Practical Grounding of the TICA Approach	18
Description of the Transactional and Institutional Cost Analysis (TICA) Approach	19
Application of the TICA Approach in CBA	26
The Interpretative Value of the TICA Approach in CBA	28
<i>Examples of the Application of TICA in Drug Court Cost Analyses</i>	30
Baltimore City and Anne Arundel County Drug Treatment Courts	30
California Drug Courts	34
Multnomah County Drug Court	37
<i>Conclusion</i>	40
Cost Analysis of Drug Courts Viewed As an Organization Analysis Problem	40
Understanding The Drug Court “Black Box”	41
<i>References</i>	43

Abstract

Cost analysis has become an important extension of public program evaluation on the state and local level. This development can be seen in federal and state legislation requiring programs to document their effectiveness and their cost benefit.¹ The importance of cost analysis can also be seen in the specific instance of drug court program evaluation in the United States. Typically cost analyses of drug courts, similar to those in other program areas, have been performed under the name “cost-benefit analysis” (CBA). The Transactional and Institutional Cost Analysis (TICA) approach is presented by the authors as a means of meeting a primary challenge for the application of CBA on the local level – the identification of costs. The groundwork for the TICA approach is organizational analysis informed by transaction cost economics, institutional theory and practical public administration. TICA can be applied to specify the resource commitments and cost consequences of multiple organizations to complex programs such as drug courts. The authors offer three examples of how TICA has been utilized in their research on the effectiveness of drug courts in three states.

¹ An example of a legislative mandate for cost analysis of drug courts can be seen in California’s *Comprehensive Drug Court Implementation Act of 1999* and Oregon’s Senate Bill 267 in 2004.

Introduction: The Place of Cost Analysis in Program Evaluation

Linking cost analysis to public program evaluation on the state and local level in the United States has become a prominent component of policy analysis.² This has been evidenced in a variety of policy areas including criminal justice (e.g., Welsh, Farrington, and Sherman 2001, Crumpton, et al., 2004, Carey and Finigan, 2003 and 2004), substance treatment (e.g., Yates, 1999, Finigan, 1996), and family and children's services (e.g., Crumpton, Worcel, and Finigan, 2003, Foster and Holden, 2004). The recent growth of cost analysis as an important part of program evaluation can be seen as the product of interrelated forces. For example, there has been a devolution of program responsibility from the federal government to state and local governments. One instance of this can be seen in welfare reform. Policy makers in Washington, as well as those in state capitals and county seats, have become increasingly concerned about the cost, cost-effectiveness, and cost-beneficial effects of such changes (e.g., see Gordan and Martin, 1999, regarding a cost analysis of the effect of welfare reform in Iowa). The effects of economic cycles (the recessions of the early 1990s and early 2000s), demands for restraint in levels of state and local taxation, and growing service demands of burgeoning urban populations have forced public policy makers and managers to look to sophisticated cost analysis methods to assist them in making difficult policy choices in light of scarce resources. Rippling cost effects of policy choices such as more frequent and longer incarceration of criminals have heightened interest in cost analysis as a critical component of policy analysis and program evaluation.

Cost Analysis and Drug Courts

The movement to include cost analysis among the evaluation tools used to study the effectiveness of state and local programs can be seen in recent examinations of drug courts. The extent to which cost analysis has become integrated into evaluation research concerning drug courts can be seen in the website of American University's Drug Court Clearing House (American University, 2004). In the list of evaluation reports found in this website those concerning drug courts in North Dakota, Oregon, Virginia, Texas, Maryland and California include some form of cost evaluation. Four of the reports that make no reference to cost analysis in their titles actually include such analysis in addition to process and/or outcome evaluation components. This may be seen as a modest indication that, as drug courts mature (the first drug court began operation in 1989) and more evidence accumulates concerning their impacts, interest in their cost consequences has also grown. Given the millions of dollars that have now been invested by the federal, state and local governments in drug court programming,³ policy maker interest in the effectiveness of the investment of taxpayer dollars in this criminal justice system intervention should be expected to continue to grow.

² Evidence may be seen in a recent internet search that resulted in over 100,000 responses to the terms "local public program evaluation, cost analysis."

³ For instance, the website of the Bureau of Justice Assistance (BJA), Office of Justice Programs, U.S. Department of Justice's Bureau of Justice Assistance (www.ojp.usdoj.gov/BJA/grant/drugcourts.html) shows that BJA granted states an average of \$20 million per year over the three year period of 2002-2004 for drug court programs.

The Challenge of the Definition of Cost

One of the most challenging issues in cost analysis – regardless of whether the analysis takes the form of a cost allocation study, cost-effectiveness analysis or cost-benefit analysis⁴ – is definition of cost. Welsh and Farrington (2001) describe the challenge of cost identification in their discussion of the estimation of monetary value in cost-benefit analyses of crime prevention programs:

The estimation of the monetary value of program resources used (costs) and effects produced (benefits) is the most important step in an economic analysis . . . The most crucial issue involved in carrying out benefit-cost analyses is deciding what program resources used and effects produced should have dollar figures attached. No prescribed formula exists for what to include (or exclude) . . . Estimating the monetary value of program benefits requires a great deal of ingenuity on the part of the evaluator . . . (pp. 7-8).

Assessing the costs associated with public sector programs is a complex matter that resists the application of simple conceptualizations or formulas. Yates (1999) discusses this problem in his consideration of substance abuse program cost analysis:

The amount of money paid, reimbursed, or requested for reimbursement for drug treatment varies depending on the national and local economic climate, the rate of inflation, and many other factors. To gain an accurate picture of costs, we must look beyond the simple lump sum totals allocated for a program. Although accounting records for cost assessment are useful in figuring costs, they usually do not supply the information needed to determine all expenditures . . . When used in most treatment programs, cost, cost-effectiveness, and cost-benefit analyses are more complicated than in business because the money spent for treatment rarely is a complete and accurate measure of total treatment costs. To truly understand how a program operates and to find ways to improve its outcomes and reduce its costs, all the resources it uses need to be described and related to outcomes, (p. 33).

Capturing the total costs of a program to the taxpayers including time and resources donated by other taxpayer-funded programs and agencies is one of the critical components of accurate cost analysis.

The Challenge of Organizational Complexity

The challenge of program cost identification is further complicated by the organizational complexity typically involved in local public programs. Public goods and services in urban areas of the United States – from public schools, waste management and police protection to innovative criminal justice system interventions such as drug courts – are produced and delivered by complex mixes of state and local agencies and public and private organizations. In American metropolitan areas these complex systems of production and delivery of public goods and services form what may be described as “local public economies.”⁵ In urban local public economies a variety of state, county and municipal agencies as well as for-profit and not-for-profit organizations are joined together by contracts, intergovernmental agreements and/or informal or de facto arrangements to provide local public goods and services that range from “core” public activities such as fire protection or street maintenance to a wide range of social and

⁴ Some researchers prefer “benefit/cost analysis” to reflect the fact the in the cost benefit ratio, the numerator is the benefit.

⁵ For a discussion of the formation and operation of local public economies from what may be described as a “modified public choice” perspective see: Oakerson, R.J. (1999). *Governing Local Public Economies: Creating the Civic Metropolis*. Oakland, CA: ICS Press.

cultural functions. In line with Welsh and Farrington and Yates's assessments of the challenges of program cost determination, the complex inter-organizational arrangements found in the production and delivery of urban public goods and services have cost consequences that defy easy delineation and analysis.

As with other inter-jurisdictional/inter-agency programs operated on the local level, drug courts are complex systems of inter-organizational actions that involve the application of a variety of human and other resources provided by diverse sets of state and local agencies: court administrations, district attorney offices, public defender offices, probation departments, sheriff's departments, corrections divisions, treatment agencies and police departments. Which agencies are involved and the extent of such involvement varies from drug court to drug court. The ways that agencies are organized to meet their resource commitments to drug courts also vary. The agencies that support the operation of drug courts may be organizational units of two, three, or more jurisdictions – each with a separate system of budgeting, accounting and auditing. The organizational complexity typically found in drug court programs makes it extremely difficult for cost analysts to identify and apply cost factors in their studies. This picture of complexity also makes it difficult for policy makers and organization managers to understand the cost consequences of their organizational commitments to programs such as drug courts.

Supporting Cost Determination With Organizational Analysis

In light of the organizational complexity found in local public programs, it is essential that cost analysis is preceded by organizational analysis. The monetary value of the resources applied to the operation of programs like drug courts, as well as the monetary value of beneficial effects realized by elements of the criminal justice, social service and other public systems that may be affected by the operation of drug courts, can only be understood if the operation of the organizations involved is understood. The following questions - and the issues involved in answering them - demonstrate the importance of careful organizational analysis to thorough cost analyses of drug courts:

- *Which jurisdictions provide support for the operation of the drug court?* Rarely is only one jurisdiction involved in the operation of a drug court. Drug courts can be expected to at least include the commitments of states and counties. However, they may also include the support of one or more city government.
- *Which agencies are involved?* Although drug courts tend to involve a familiar mix of agencies – court, district attorney, public defender, probation, sheriff and treatment – one or more of these agencies may not be involved in a particular drug court program. Occasionally, another agency, such as a city police department or an employment security agency, is active in the drug court.
- *Are the agencies involved state or local?* There is variation among states as to which jurisdictions are responsible for what services. For instance, in some states the public defender's office and probation departments are state agencies, while in others they are county organizations. In either case taxpayers are responsible for the costs of these services. However, an important policy question is involved in assessing whether the cost burden is shared by all state taxpayers or borne solely by the community under consideration.

- *Which agencies are responsible for what activities?* In some drug courts the probation department provides case management for drug court participants. In other drug courts the treatment agency provides case management. Urinalysis may be the responsibility of the treatment agency, the probation department or even a police department. It may also be a shared responsibility of two or more agencies.
- *How do the agencies pursue these activities?* The biggest issue involved in this question is typically whether treatment is performed in-house by county employees or contracted out. However, it may also involve a determination of whether treatment is provided under an umbrella contract with one private agency or through contracts with a number of service providers.

The answers to these questions should be expected to have notable cost consequences. To answer them a thorough examination of the organizational arrangements involved in drug court programs should be performed.

Program Development and Institutional Transformation

The introduction of a new program such as drug court rarely takes the form of an all new agency with new human and other resources. Rather, the new program usually involves the transformation of existing agency resources to a new end. In new drug courts public defenders, probation officers and treatment case managers are reassigned to duties that can be very similar or quite dissimilar to those of their previous assignments. Not only does this transformation have consequences for the calculation of drug court costs, it may also have significant impacts on the costs associated with the traditional operations of the agencies from which resources for drug courts are drawn.

Key Concept 1:

The introduction of a new program such as drug court rarely takes the form of an all-new agency with new human and other resources. Rather, the new program usually involves the transformation of existing agency resources to a new end . . . Not only does this transformation have consequences for the calculation of drug court costs, it may also have significant impacts on the costs associated with the traditional operations of the agencies from which resources for drug courts are drawn.

The Transactional and Institutional Analysis Approach (TICA): A Response to the Challenge of Cost Analysis Amid Organization Complexity

Understanding Cost-Benefit Analysis on the State and Local Level.

Among the three general forms of public program cost analysis – cost determination, cost-effectiveness analysis, and cost-benefit analysis - cost-benefit analysis (CBA) is generally seen as the approach that most fully deals with the cost consequences of public programs. But what is CBA? What does it mean in the examination of state and local programs such as drug courts? A quick look at the historical roots of CBA may help us begin to answer these questions.

CBA emerged on the federal level in the United States as policy makers considered the impact of large scale projects and programs. As Nas (1996) observes:

Formally, [CBA] became part of the Flood Control Act of 1936, and with a landmark 1950 report prepared by the Federal Inter-agency River Basin Committee, it evolved into a standard guide for water resource planners. The most systematic use of the method occurred in the 1960s when the Planning, Programming and Budgeting System (PPBS) was introduced as an extension of system analysis in the Department of Defense.

After the 1960s, the impact of CBA on the design and formulation of policies in federal agencies increased significantly. Through the guidance of the Office of Management and Budget (OMB), CBA has become an essential evaluation tool, incorporating straightforward guidelines consistent with the premises and the logic of CBA, (p. 4).

The guidelines for the use of CBA by federal agencies are identified in OMB Circular A-94,⁶(Nas, 1996).

However, the environments in which local public programs operate are much different from that in which federal projects and programs are planned, programmed, operate, and are evaluated –

⁶ Nas states that the following eight rules found in the circular are the most important elements of CBA:

1. Estimates of expected costs and benefits must be provided and defined from the perspective of society rather than the Federal Government.
2. Both intangible and tangible benefits and costs should be included in the analysis.
3. Cost should be defined in terms of opportunity cost, and incremental costs and benefits rather than sunk costs should be used in the benefit-cost computations.
4. Real economic values rather than transfer payments should be included in the net benefit calculation. Transfer payments may be considered and discussed in terms of distributional aspects..
5. In measuring the costs and benefits, the concept of consumer surplus must be employed, and whenever applicable willingness to pay must be estimated directly and indirectly.
6. Market prices provide an "invaluable starting point" for measurement, but in the presence of market failures and price distortions, shadow prices may have to be employed.
7. The decision whether to accept a public project must be based on the standard criterion of net present value. To furnish additional information on the project, the internal rate of return also can be provided.

In reporting net present value and other criteria, a real discount rate of seven percent (the average pretax rate of return on average private investment in recent years) should be used. Also, a sensitivity analysis with alternative discount rates should be provided, (p. 5).

the environment for which “classic” CBA was developed. The economic, social and political forces that define local public economies are not only different in scale as compared to the national context of federal projects and programs, they are also different in kind. As a result, the rules that define the form of CBA for application on the federal level, when considered as a whole, are not appropriate for the evaluation of local programs. That the “classic” CBA methods used on the federal level can be seen as problematic on the state and local level is evidenced by the fact that the Government Financial Officers Association, the professional organization of state, provincial and local financial managers in the United States and Canada, does not list CBA as a “component of long term strategic planning and decision making” for state and local programs and services, (GFOA, 1994).

Yet something (perhaps more accurately, some things) referred to as “cost-benefit analysis” is used with regularity to assess the value of local public programs. We believe that CBA can be a useful element of a local program evaluation repertoire. But the meaning of CBA as it is applied in the state and local public policy arenas must be viewed in the flexible light offered by Noble Laureate Amartya Sen (2001):

. . . the term “cost-benefit analysis” has considerable plasticity and various specific procedures have been called by that name . . .
. . . cost-benefit analysis is a very general discipline, with some basic demands . . . that establish an approach but not a specific method . . . the approach of cost-benefit analysis is rather permissive and can be adopted by many warring factions in the field of public decisions . . . Sensible cost-benefit analysis demands something beyond the mainstream method . . ., (pp. 96-97, 114, 115, 116).

Cost-benefit analysis practiced on the local level should consider the value of programs in the practical terms that fit the decision making framework of state and local policy makers and managers. Although programs such as drug courts on the state and local level may be part of national initiatives as responses to broad social, political and economic forces, decision makers in state capitals, county courthouses and city halls who assess their value ultimately use the most elemental of political referents: near-term return on invested resources and cost to state and local taxpayers.

The practical concerns of state and local decision makers concerning the value of programs should be built into the design of methods of CBA as it is used to evaluate local programs such as drug courts. For instance, in a state or local CBA the perspective or perspectives used by the analyst should be clearly identified. As Foster and Holden (2004) state:

. . . the costs and benefits of a program will vary with the perspective. Costs important from one perspective will be irrelevant from another—social welfare agencies, for example, generally ignore costs that do not appear on their budgets. Some policy outcomes may be a cost from one perspective and a benefit from another; mental health services may return a child to the family (a benefit to the family and the mental health agency), but if the family thereby becomes eligible for cash assistance, the state’s Temporary Assistance for Needy Families (TANF) agency incurs a cost.

A benefit-cost analysis therefore needs to specify one or more perspectives . . ., (p. 45).

Unlike the use of CBA on the federal level, there are always a variety of perspectives available for the consideration of state and local programs. Sewell and Marczuk (2004) consider this fact in relation to use of CBA to evaluate social services:

A narrow cost analysis might look only at the monetary costs and benefits to the individual participant or target of services, or to a particular funder or agency. A broader perspective might attempt to look at a wide range of costs and consequences (intended and unintended, direct and indirect) for society as a whole. A program that is not cost-effective from the perspective of a particular agency within its limited mission and budget may well be cost-effective from the perspective of society, because it saves expenses or prevents problems in other areas . . . while there are limitations to any one perspective, it is important for the evaluator to clearly state his or her position, (pp. 9, 10).

In terms of the application of CBA to drug courts, we believe that Welsh and Farrington (2001), Greenwood, et al. (2001) and the Washington Public Policy Institute (Aos, et al., 2001) offer a menu of perspectives that can be used to address different audiences:

This step [define the scope of the analysis] can be divided into two parts: First, define the alternatives to be compared (e.g., participation in a program versus nonparticipation); second, identify the limits of the comparison . . . A determination is made at this stage about the perspective the economic analysis will take. The “public” (government/taxpayer and crime victim) and the “society” (government/taxpayer, crime victim, and program participation) are the two most common perspectives used in economic analyses of crime prevention programs. Other perspectives can include the government agency funding the program (e.g., probation, social services), participants of the program, or crime victims, (Welsh and Farrington, 2001, p. 6).

. . . [W]e devote most of our attention to costs and savings to the government, since we can more comprehensively account for those than we can for the costs and benefits to society at large . . . , (Greenwood, et al., 2001, pp. 124-125).

The Institute’s cost-benefit model analyzes program economics from two perspectives. First, the taxpayer’s vantage point is considered. For every dollar of taxpayer money spent on a prevention or intervention program, can downstream criminal justice costs be avoided by at least that amount due to reduced criminal activity? In other words, by spending a taxpayer dollar now on a program, will more than one taxpayer dollar be saved in the years ahead? . . . In addition to the taxpayers’ perspective, the model also uses information on the costs of crime to victims . . . It is also important to note that this cost-benefit model concentrates on program economics in one outcome area: criminality . . . Although society, program participants, and taxpayers can benefit from changes in . . . [teen pregnancy, substance abuse, drop-out rates] and other behaviors, our analysis measures only the costs and benefits of crime-related outcomes, (Aos, et al., 2001, p. 151).

In the examination of the cost-beneficial effects of local programs no single perspective is “right” or “wrong.” Neither does one perspective or combination of perspectives make or unmake a cost analysis as a CBA. What is of greater importance in the application of CBA to local programs like drug courts are care, clarity, and consistency in the definition and application of the terms of analysis.

TICA and the Application of CBA to Local Programs

Transactional and Institutional Cost Analysis (TICA) is an approach to CBA that meets a primary challenge for the application of cost analysis on the local level – the identification of costs. The groundwork for the TICA approach is organizational analysis informed by transaction cost economics, institutional theory and practical public administration. TICA can be applied to specify the resource commitments of multiple organizations to complex public programs and the cost consequences of such in meaningful detail.

The TICA approach is not designed to compete with “classic” CBA or any other form of CBA that has been used in the evaluation of local programs such as drug courts. Rather, we see TICA as bringing a set of theory and methods to CBA that are particularly useful to state and local

decision makers in the definition of the cost environment of drug court and other programs.. The theory and methods of TICA “fit” the nature of the local public economies from which drug courts emerge.

Key Concept 2:

TICA is not designed to compete with “classic” CBA or any other form of CBA that has been used in the evaluation of local programs such as drug courts. Rather, we see TICA as bringing a set of theory and methods to CBA on the state and local levels that are particularly useful in the definition of the cost environment of drug courts and other programs in ways that are meaningful to state and local decision makers.

TICA As a Response to the Question: Can the Costs of Inter-agency Programs Be Fully Described?

As noted above, a core challenge of local program cost analysis is the identification of program cost. This challenge is further complicated by organizational complexity that is typically involved in programs like drug courts. Inter-agency programs designed to produce and deliver local public goods and services are typically characterized by complex social, political and economic features. They involve employees drawn from different organizational settings. They include the integration of a variety of specialized resources. Such resources are supported through separate budgetary and financial management processes. In light of this organizational complexity, it is challenging to produce a coherent evaluation of the cost consequences of such programmatic systems.

We believe that it is possible for the cost consequences of inter-agency/inter-jurisdiction programs such as drug courts to be fully described. However, for this to be done, the cost analyst must accumulate extensive understanding regarding the ways that agency resources are combined to make inter-organizational programs operate. The Transactional and Institutional Cost Analysis (TICA) approach is designed to generate information regarding the characteristics of complex inter-organizational programs that will lead to understanding of their cost consequences.

The TICA approach assists the cost analyst in realizing four methodological objectives:

- Developing an understanding of the sources of organizational contributions to the program;
- Describing the activities each organizational contributor pursues in support of the program;
- Identifying all “transactional” and “institutional” costs that are associated with the activities performed by each organization that supports the operation of the program; and

- Generating information in the cost evaluation that is meaningful to policy makers, public administrators and the interested press and public.

The theory and methods that support TICA give it conceptual and practical power to effectively describe the cost environment of drug courts. As a result, TICA enriches the application of CBA to drug courts with an understanding of the program's organizational complexity and cost consequences.

Theoretical and Practical Grounding of TICA

The TICA approach is not intended to supplant or contradict the contributions of any theory, discipline or set of concepts in application of cost-benefit analysis to public programs. Rather, we believe that one of the strengths of the TICA approach is its interdisciplinary character. However, the TICA approach to program cost analysis is distinctive largely because of the unusual mix of elements in its theoretical and practical grounding.

The distinctiveness of TICA begins with its theoretical roots. TICA draws from five areas of theoretical and practical thought:

- Organization theory;
- Institutional theory;
- Transaction cost economics;
- Public administration practice; and
- Practical experience of researchers.

Organization theory

It is commonplace to assert that modern life in western societies is "organizational life." Almost every aspect of life from home to the workplace involves contact with organizations – often large, complex organizations. In twenty-first century America, complex organizations, singly and in interlinked clusters, are essential to the delivery of every public good and service – particularly in urban settings where most Americans live and work. As determined through decision-making by elected and appointed officials, complex organizations and clusters of organizations are tools of collective social action wherein human, financial and physical resources are transformed into things that people want and need in the pursuit of daily urban life. Organizations concentrate power, values and resources to change and stabilize the way that we live.

Local public economies – the settings where we find drug court programs – exhibit distinct organizational richness. Public goods and services are produced and delivered by individual organizations and groups of organizations of almost endless variety in terms of structure and size. Their systems of governance and control exhibit tremendous variety. Some are characterized by tight central control. Others are highly decentralized. The production and delivery of some public goods and services (drug courts are an example) involve relationships among public and private (for-profit and/or not-for-profit) organizations. The hundreds of local

public economies that support urban life in the United States each possess distinct mixes of organizations, a fact that challenges understanding regarding the effects of programs such as drug courts.

In terms of specific sources of concepts in organization theory that have influenced TICA, we have looked to what Charles Perrow (1986) refers to as the “Neo-Weberian” school of thought. Perrow identifies Herbert Simon and James March as leaders of this group of organization theorists. The March and Simon view of organizations and the complex systems of social organization that they embody is that they are at the same time rational and less-than-rational expressions of social, political and economic action. Rational “economic man” dwells in organizations that are intended to be rational and makes intended rational choices based on calculi of supposed maximized self-interest. Organizations and the people who operate them are “intendedly” rational. However, organizations and organizational people face serious limits to rationality such as incomplete knowledge and inability to rank alternatives. This results in what March and Simon refer to as “bounded rationality.” A consequence is what March and Simon refer to as the organizational “garbage can,” where unexpected organizational outcomes occur, (Perrow, 1986).

The importance to cost analysis of the application of a March and Simon/Neo-Weberian version of organization theory is that it challenges many rational choice-based assumptions that support cost models built on straightforward economic theory. We see organizations as social systems that are formed, re-formed, stretched, contracted and modified in a multitude of ways to meet many unpredictable ends. As a result, organizations to be analyzed as part of any cost analysis routine should be considered, at least in part, de novo. They should be considered as distinct, largely unique social organisms that are subject to unexpected change.

The value of an organizational perspective

The TICA approach to cost evaluation helps the researcher to visualize organization structural elements and operational relationships involved in complex inter-organizational programs. The organizational assessment performed as part of TICA supports the development of understanding of the resource and outcome effects that result from organizational commitments to extra-organizational activities. The determination of agency and jurisdictional organizational commitments to support programs such as drug courts, which lie outside existing organizational boundaries, is important for the determination of the cost consequences of the new program – for the new program and the pre-existing organizations.

Key Concept 3:

The organizational assessment performed as part of TICA supports the development of understanding of the resource and outcome effects that result from organizational commitments to extra-organizational activities. The determination of agency and jurisdictional organizational commitments to support programs such as drug courts which lie outside existing organizational boundaries is important for the determination of the cost consequences of the new program – for the new program and the pre-existing organizations.

Institutional Theory

Institutional theory is another important source of concepts that support the TICA approach. We view institutional theory as a sub-area of organization theory.⁷ An institutional perspective may be the most controversial contributors to TICA. One of the reasons for this lies in confusion (even among social scientists who describe themselves as “institutionalists”) regarding the meaning of the term “institution.” In their consideration of institutional effects in local government, Clingermeier and Feiock (2001) address the difficulty involved in using the term “institution:”

One difficulty with an institutional focus is that the term *institution* [authors’ emphasis] can take on several meanings. Substantial confusion exists between scholars who use the term *institution* to refer to an organizational entity such as a family, a business firm, political party, or a university, and scholars who use the term *institution* to refer to formal and informal rules operating within or across organizations, (p. 2).

In our search for clarity regarding the definition of “institution,” we can turn to one of the most prominent scholars of institutions and organizations, W. Richard Scott. In his “omnibus conception of institutions,” Scott (2001) offers the following definition of “institution:”

Institutions are social structures that have attained a high degree of resilience . . . [they] are composed of cultural-cognitive, normative, and regulative elements that, together with associated activities and resources, provide stability and meaning to social life . . . [they] connote stability but are subject to change processes, both incremental and discontinuous, (p. 48).

Reflecting our preference to view institutional theory under the disciplinary tent of organization theory, and in response to the Clingermeier/Feiock dichotomy and Scott’s conception of institutions, we focus on the meaning of “institution” in the context of organizational entities. However, this distinction does not resolve another struggle in understanding – the struggle to understand differences between “organization” and “institution,” as well as differences between “organization theory” and “institutional theory.”

Organization theory views organizations as tools that are used to support social action. They are social entities made up of people, relationships between and among people and physical artifacts that support the activities of “organized” people. Whereas “organization” refers to a tool, “institution” refers to forces that give the tool meaning. Institutional theory considers how organizations are given meaning to serve as purposeful tools of social action. Organizations are formed, directed, modified and evaluated according to institutional criteria. In addition to meaning, institutional forces give organizations stability to meet the demands of their purposes over time. Institutional factors constrain and enable collective social action pursued through organizational forms. They help to bring order to what would otherwise be a chaotic world of complex organizations. According to Clingermeier and Feiock (2001), they “induce patterns within social phenomena that otherwise appear meaningless.” (p. 3) In the realm of local

⁷ Where institutional theory “belongs” in social science is debatable. Sociology, political science and economics make claims on the institutional perspective. In locating institutional theory within organizational theory, we consider it to be informed by a number of other social science disciplines.

governance where drug courts operate, institutional factors determine how and why jurisdictions and agencies do what they do.

A structural manifestation of how institutional factors give *purpose* to otherwise inert elements of organization can be seen in the governance of jurisdictions. Governance of state and local jurisdictions is the responsibility of jurisdictional executives (mayors, governors, city managers) and legislatures (state assemblies, county commissions, city councils). These individuals and groups establish and execute policy that defines the work of state, county or city agencies. An institutional factor, “governance,” through the expression of institutional purpose, “policy making,” transforms otherwise purposeless organizational resources such as employees and capital plant into purposeful means for the pursuit of the purposes of the jurisdiction. The work of mayors and state assemblies represent the provision of what we refer to as *institutional governance*.

Another structural manifestation of how institutional factors provide *stability* for organizational elements can be seen in organizational support mechanisms in state and local jurisdictions and agencies. To enhance the capacity of organizational units to pursue the purposes of jurisdictions and agencies, executives and legislatures make available specialized organizational resources that support service provision operations. These resources are not directly consumed in the purposeful work of operating agencies, but are, nonetheless, essential to the continuous and consistent realization of jurisdictional or agency purposes over time. Centralized organizational resources such as purchasing systems or information technology bureaus, and decentralized resources such as agency clerical staffs or motor pools, act on the basis of institutionalized rules and procedures to support the work done by operating units in pursuit of the purposes of the jurisdiction and agency. The work of information technicians and administrative assistants is representative of *institutional support* provided by jurisdictions and agencies for organizational units engaged in direct service provision.

A long-standing criticism of institutional theory is that it is too conservative. As a result of its emphasis on stability, institutional theory has been criticized as not accounting for continuous change that we see in the organizational world. In opposition to this view we ascribe to a version of institutional theory (reflected in the earlier Scott quote) that has emerged in the past quarter century. This “new institutionalist” position argues that, rather than impeding change, institutional factors found in pre-existing organizations are essential for change. Reflecting this position, Scott (2001) states:

Existing institutions . . . provide a repertoire of already existing institutional principals (e.g., models, analogies, conventions concepts) that actors use to create new solutions . . . Fragments of pre-existing institutions are cobbled together . . . Principles are amended and compromises reached to form new settlements; models are reconfigured or combined into various hybrid forms; and routines are reassembled to served modified goals. New institutions borrow aspects of order, meaning, and legitimacy from earlier institutions. (p. 192)

Through processes that Scott (1991) refers to “inducement,” “acquisition,” and “imprinting,” of organizational structure, new forms of organization emerge from the institutional characteristics of existing organizations. As a result, we see that organizational characteristics of new programs

such as drug courts are induced by, acquired from and/or imprinted by the institutionalized structures found in existing jurisdictions and agencies.

Inducement strategies involve incentives provided by outside agents to stimulate organizational changes. In terms of the drug court setting, we frequently see judges as agents of inducement. In cases wherein new or transformed organizations **acquire** organizational structure, they either choose to implement existing models of organization, or acquire the use of existing organizational resources. In drug courts we see both forms of organizational “acquisition.” On one hand drug courts implement (“acquire”) a general national model of drug courts adapted to local needs. Of greater importance from a cost perspective, drug courts are typically dependent upon the “acquisition” of existing organizational components provided by district attorney offices, public defender agencies, probation departments, and treatment agencies. Not only is this of importance in making accurate assessments of the cost of drug court programs, it is also important for contributing jurisdictions and agencies to understand the cost consequences associated with the contribution of their organizational resources to drug courts.

Imprinting of organizational structure means the use of characteristics of existing organizations as key attributes of new organizational operations. In the case of drug courts, “imprinting” typically follows with the acquisition of existing organizational resources. A result, we see drug courts who use probation officers as case managers also absorb pre-existing supervisory procedures of probation agencies.

The value of an institutional perspective

The implications these considerations based in institutional theory have for evaluating the cost consequences of drug courts are significant – both in terms of the determination of the cost of drug courts and in terms of assessing the impact on existing organizations that contribute organizational resources to drug courts. In determining the cost of drug court programs the analyst must identify the cost of existing agency resources that are “acquired” for the new program. When resources are acquired from an existing agency for a drug court program it should also be expected that the residual work of the contributing agency will be affected with calculable effects on agency efficiency and effectiveness. The procedures that are “imprinted” into the operation of drug courts will affect the intensity, and thus the cost, of organizational resources that are committed to the new program.

Through the processes of inducing, acquisition and imprinting of organizational characteristics, the organizational *purposes* of drug courts are affected by existing organizational resources drawn from a variety of jurisdictions and agencies. However, drug courts also indirectly rely upon the background institutional resources that we described above as providing *stability* for jurisdictional operating units. In cost terms this stability is represented by the monetary value of jurisdictional governance (governing bodies and executives) and service support structures (IT and human resources office, for example). Without these elements of *institutional support* it would be difficult, for example, for the services of deputy district attorneys and probation agents to be made available to drug courts. As a result, the TICA approach takes into account the generally fractional cost effects of these background elements of institutional support provided by existing jurisdictions.

Key Concept 4:

Institutional theory is translated in practical terms in the TICA approach. In TICA institutional factors are seen as having cost consequences relevant to the calculation of the cost of programs. The costs of jurisdictional and agency governance and support can and should be identified to fully account for the cost of programs and the resources commitments that pre-existing public organizations make to their operation.

Transaction cost economics

Transaction cost economics dates back to the work of Ronald Coase in the 1930s. However, it was not until the 1970s through the work of Oliver Williamson, Douglas North and Terry Moe, among others, that it received broad attention. According to Scott (2001), transaction cost economics

. . . is concerned with the rule and governance systems that develop to regulate or manage economic exchanges. These systems occur at many levels, from macro-regimes at the international level to understandings governing micro-exchanges between individuals, (p. 30).

The influence of transaction cost economics on TICA is largely based on Williamson's argument that

when . . . rationality, which is bounded (cognitively limited), is confronted by heightened complexity and uncertainty . . . exchanges are likely to be removed from the market and brought within an organizational framework or, if the exchanges are already inside an organization, more elaborate controls are likely to be introduced, (Scott, 2001, p. 30).

Transaction cost economics (referred to as "new institutional economics" by some) is largely focused on the "transaction" – an economic exchange at the boundaries of or internal to organization(s) – transaction cost economics considers how organizations seek to economize on transaction costs. Organizations are seen as rational agents looking to link with other organizations, contract out, or internally modify operations in the interest of optimizing performance. This perspective leads the researcher to consider whether organizational forms that are created as responses to transaction cost economizing are the optimal responses, (Perrow, 1986, Scott, 2001, Brint and Karabel, 1991). Transaction cost economics informs the TICA approach such that it emphasizes the observation of inter-organization and intra-organization integration involved in new organizational forms.

The power of the concepts of transaction cost economics is enhanced by joining it to one of the important assumptions of March and Simon/Neo-Weberian organization theory and institutional theory – that the prospects for the survival of programs in complex and demanding environments cannot be viewed apart from the larger institutions upon which the programs are dependent, (Martinez and Dacin, 1999). As we discussed above in relation to the influence of institutional theory on TICA, broadly-based institutions such as departments or jurisdictions provide institutional governance, direction and support resources that are essential to intra- or extra-

agency program endurance. TICA makes the consideration of institutional resources an integral part of transaction cost determination. The practical value of transaction cost economics to the TICA approach can be seen in the usefulness of identifying key transactions associated with new programs and determining resource contributions from existing agencies to such transactions.

An example of the application of transaction cost economics in the context of drug court programs can be seen in transactions referred to as “drug court sessions.” Drug court sessions would not take place without a variety of institutional commitments from court administrations, district attorney offices and public defender offices. Institutional commitments in this case are essential to this key transaction. As a result, an assessment of the full cost consequences of drug court sessions must take into account the monetary value of the institutional commitments to program transactions.

Key Concept 5:

The practical value of transaction cost economics to the TICA approach can be seen in the usefulness of identifying key transactions associated with new programs and determining resource contributions from existing agencies to such transactions.

Public Administration Practice

In addition to its theoretical roots, the TICA approach to cost evaluation has been enhanced by practice and research in public management in two basic ways. First, TICA’s underlying concepts and methods have been informed by prominent practical models of public resource policy-development, planning, programming and outcome assessment. Second, the developers of TICA have gained understandings regarding evaluation of public resource utilization through their direct experiences in the management and evaluation of public programs. In this and the next section the contributions of this practical grounding to the TICA approach will be discussed.

The TICA approach to public program cost evaluation has been significantly affected by a number of conceptual influences that arose in the discourse of public administration in the last third of the twentieth century. These conceptual influences in the financial management of public agencies incorporated in TICA provides the researcher with a better understanding of the “real life” context within which agencies operate. The following list represents a partial summary of these influences:

- *Program Budgeting.* In program budgeting political leaders and public administrators consider traditional line-item budget information through the prism of larger activities pursued by agencies. In this approach to budget preparation and analysis, agency expenditures are linked to explicit programmatic goals and objectives. (Morgan and Robinson, 2000) Program budgeting allows decision makers and analysts to see the organizational and cost consequences of programmatic activities that cannot be seen in traditional organizational charts and line-item budgets.

An example of program budgeting in the context of drug courts may be seen in the hypothetical case of a county that identifies drug courts as a program activity and accounts for such in its annual operating budget. In this case the county would identify

the full-time equivalent positions (FTE) committed by district attorney staff, the probation agency and the sheriff's office and other resources allocated to support the drug court operation. The monetary value of these commitments would also be identified. These resource commitments would be justified in terms of the county's policy determination. Unfortunately, as far as we know this is only a hypothetical situation – we have seen no evidence in jurisdictional operating budgets of program budgeting applied to drug court programs.

- *Performance Budgeting.* Performance budgeting encompasses a family of budget planning approaches that emphasize the measurement of results as part of allocating public resources. The underlying idea of performance budgeting is an assessment of the linkage between measured outcomes and resource allocation. In the application of performance budgeting jurisdictional political and administrative leaders are usually interested in productivity measurement and improvement, (Morgan and Robinson, 2000).
- *Zero-based Budgeting.* A reconsideration of the basic justification(s) of programs and the resources that support them during annual or biennial budget preparation review and approval processes is the core concept of zero-based budgeting. The rationale of zero-based budgeting and its less stringent variants is to assist policy-makers in clarifying programmatic choices in the allocation of scarce budgetary resources, (Morgan and Robinson, 2000).
- *Guidance of Professional Organizations.* Professional associations such as the International City and County Management Association (ICMA) and the Government Finance Officers Association (GFOA) provide on-going support for the promulgation and dissemination of concepts regarding the planning, budgeting and evaluation of the application of public resources. For instance, in its on-line website GFOA provides extensive information regarding best practices in public budgeting, including basic principles and important elements of these principles, (GFOA, 2002).

These conceptual influences of public financial management support the idea that TICA should be realistic from the perspective of public administrators – particularly in terms of accounting for the impact of new programs on existing organizational resources.

Key Concept 6:

Concepts taken from the literature and practice of public administration regarding the financial management of public agencies that are reflected in TICA provides a better understanding of the "real life" context within which agencies operate.

Practical Experience of Researchers

The TICA approach to the cost evaluation of public programs is heavily informed by its developers' experience as public management practitioners and public program evaluators. The developers of TICA have two decades of experience in public administration.⁸ This experience has included the design, management, budgeting and performance assessment of complex inter-organizational programs similar to drug courts. Through work for municipal, county and state agencies, they have developed "front-line" perspectives regarding how organizational resources are marshaled in pursuit of program activities. In that this practical experience in public administration has been acquired in several states in different regions of the United States, it supports an understanding of the challenges involved in developing inter-contextual understanding of public programs.

This experience as public administrators is enhanced by experience that the TICA developers have acquired in a wide variety of evaluations of local and state inter-agency programs. More than four decades of experience in evaluation research of large and small public programs involving a variety of policy realms throughout the United States has supported an attention to program complexity that heavily influences the design of the TICA approach. This research experience is demonstrated by the three examples of the application of the TICA approach included in this paper.

Summary of the Theoretical and Practical Grounding of the TICA Approach

Table 1 summarizes the contributions of the theoretical and practical roots of the TICA approach.

Table 1 Contributions of the theoretical and practical roots of the TICA approach.

Source of Contribution	Nature of Contribution
Organization Theory	Focus on organizational structures and processes and their impacts on "transactional areas" of inter-agency/ program systems. Emphasis on the "irrational/reactive" nature of organizations as well as their "rational" characteristics.
Institutional Theory	Understanding of the role of background institutions in providing stability for inter-agency/ programs through the provision of "institutional resources." Recognition of institutional sources of change as well as stability.
Transaction Cost Economics	Conceptualization of the processes of inter-organization integration that supports the key "transactions" that characterize inter-agency/ programs. Recognition of organizational adaptations that are made to adjust to environmental uncertainty and instability.
Public Management Practice	Understanding of the public resource planning, programming and evaluation processes which programs draw upon and support.
Researcher Experience	A comprehensive view of the <i>environment</i> of public policy analysis and development that an effective program cost evaluation approach should support.

⁸ Crumpton has held positions in public administration in municipal, county and state organizations in South Carolina, Missouri, Kansas, Oregon, Maryland and New Hampshire.

Description of the Transactional and Institutional Cost Analysis (TICA) Approach

Overview

The TICA approach to program cost evaluation is a new approach in the application of existing theory and practice to the realm of public program evaluation discourse. It diverges from methods frequently used in cost analysis used in the evaluation of public programs on the local level— particularly in the way that it assesses “cost.” As a result, the terminology and procedures that it encompasses will be new and somewhat foreign to some readers.

In this section the basic components of the TICA approach methods will be briefly described. The discussion deals with the TICA approach in a generic sense – the way that it would generally be applied in a cost evaluation of any drug court. It should be noted that the experience of the authors indicates that differences in the political, social, economic, and organizational environments among drug courts will most likely lead to modifications in the general approach as it is applied in specific settings. The TICA method discussed below is presented in a sequential fashion. However, in most cost evaluations substantial overlap and parallel/concurrent activities among the steps should be expected. In addition, a certain amount of learning/revision should also be anticipated: new information gathered in later steps may lead the researcher to revisit and make revisions to findings from earlier steps.

Step 1: Organization Analysis

Step 1a: Assess Organizational Setting

The grounding of the TICA approach in organization and institutional theory and transactional cost economics leads to an emphasis on organization analysis at the onset of a cost evaluation. Early in a program cost evaluation, the TICA approach involves a clear mapping of the organizations that contribute resources to the service delivery system under consideration. A cursory consideration of this step in the cost analysis may lead one to think that it should involve no more than a review of program description documents, program budgets, or organization flow charts. However, these administrative documents may not reveal many elements of an organization’s participation that have noteworthy impacts. For instance, although a state or county agency’s budget detail document may be precise in its description of the full-time equivalent (FTE) staffing assigned to work units such as the adult field supervision bureau in a probation agency, it typically will not identify what portion of the FTE is assigned to case management associated with drug court programs. Administrative documents can contribute to the analyst’s understanding of the organizational world within which the drug court (or other similar programs) operates but may not reveal the participation of all jurisdictions or agencies that contribute resources to its operation. In addition, the documents may not include private organizations that contribute components of drug court programs.

Through review of administrative documents, interviews of knowledgeable informants and observation of program activities, the researcher will identify all organizations that contribute to the operational environment of the drug court. Care is taken to identify relatively detailed organizational elements that may be connected to the drug court operating environment. Care is also taken to identify any private sector organizations that may be involved in drug court operations.

There are three primary reasons for this focus. First, relatively small organizational commitments can have substantial financial consequences. For instance, contracting acupuncture services for some for drug court program participants by an alcohol and drug agency with a small private non-for-profit organization may seem relatively insignificant to jurisdictional budget managers – so insignificant that no reference to such appears in budget documents. However, the resultant financial consequences may total in tens of thousands of dollars – a substantial portion of the de facto drug court budget, and a significant financial commitment by the jurisdiction involved. Thus, careful organizational analysis by researchers using the TICA approach may substantially contribute to jurisdictional budget analysis. Second, care in the examination and reporting of data in this portion of the TICA approach is important in painting a meaningful picture of the organizational characteristics of extra-organizational programs like drug courts for policy makers and public organization managers. The extent of jurisdictional and agency commitments associated with programs like drug courts may be below the “radar” of jurisdictional and agency leadership. Thus, careful examination and reporting of these commitments by researchers can assist in developing improved understanding of extra-organizational programs among local public leaders. Finally, care in assessing the organizational characteristics of drug court operations ultimately helps the research community and national policy analysis in the development of inter-contextual understanding. Our experience indicates that there tends to be substantial organizational differences among drug court programs – differences that result in cost differences. Careful examination and reporting of organizational details will assist in improving the national understanding of organizational differences among programs and their consequences. We believe that researchers should pay as much attention to organizational details related to costs as they do to details related to collecting study sample outcome data.

Key Concept 7:

The extent of jurisdictional and agency commitments associated with programs like drug courts may be below the “radar” of jurisdictional and agency leadership. Thus, careful examination and reporting of these commitments by researchers can assist in developing improved understanding of extra-organizational programs among local public leaders.

The TICA approach also identifies the roles played by each organization that participates in the operation of a drug court. Depending on the specific role played by an organization, different organizational resources or different levels of such resources may be involved and therefore care is also given to specify each distinct role.

In order to determine the participation of state, county and municipal organizations in drug court programs, the use of semi-structured protocols such as a “drug court typology interview guide”⁹ is helpful in the collection of data. Based on the findings concerning the organizational setting of

⁹ NPC Research has developed a comprehensive guide for use in interviewing drug court staff to determine key features of a drug court’s typology and processes. Do obtain a copy of this guide contact NPC Research at www.npcresearch.com.

the drug court, a system map can be created that reflects how the organizations are joined together to support the drug court.

Key Concept 8:

We believe that researchers should pay as much attention to organizational details related to costs as they do to details related to collecting study sample outcome data.

Step 1b: The System Map

The system map is one of the most important practical products of the organization analysis. The system map, supported by tables or other visual aids that describe the roles of each participating organization, demonstrates how organizational resources are linked and the nature of such linkages. The resultant picture or pictures represent institutional patterns that more than likely do not appear on the organizational chart of any one agency or jurisdiction and cannot be found as a program or set of line items in any public organization's budget.

System maps describe discernable entities of public action that are composites of the human resource, budgetary and other organizational resource commitments of more than one (in some cases many more than one) jurisdiction or agency. An example of the graphic products generated in this step of the TICA approach are flowcharts that reflect when and how in their progress through the local criminal justice system individuals enter drug courts as alternatives to typical "business as usual" criminal justice system experiences. In these flow charts the jurisdictions and agencies involved in this picture are also identified.

The TICA approach offers jurisdictional executives and department directors information concerning the extent of resource commitments to drug court as well as the resource commitments to the "business-as-usual" process. An example can be seen in state public safety operations. State departments of public safety may include state police, correctional institutions and parole and probation services. Drug courts usually include the application of resources drawn from probation agencies – programmatic commitments that usually do not explicitly appear in the state operating budget. A cost analysis built on the TICA approach will present information regarding the probation resources invested in drug courts. In addition, as part of the "benefits" analysis side of its application to CBA, the TICA approach will also offer an assessment of drug court impact on "business-as-usual" components of law enforcement, corrections and supervision affected by drug court operations – an assessment that will be meaningful to state and public safety department leaders.

Key Concept 9:

The TICA approach offers jurisdictional executives and department directors realistic information concerning the extent of resource commitments to drug court programs and the residual affect of drug courts on “business-as-usual” organizational commitments.

Step 2: Transactions Analysis Phase

In the TICA approach an identification of the key transactions that define the production and delivery of the services involved in drug court programs is essential to cost analysis. Transactions are characterized by clearly understood activities and activity-related costs. Transactions are the points where jurisdictions and agencies link to provide discrete criminal justice system, treatment system, social service system or other services in the public sector organizational landscape. For example, some common transactions in drug court programs are drug court appearances, treatment sessions and drug tests. Transactions are measured on the basis of an organization’s actual experience with the production and delivery of those services.

How is TICA transaction analysis performed?

In the transaction analysis phase of the TICA approach, the nature, number and duration of the activities associated with transactions are identified and analyzed within the context of the actual experience of the organizations involved. As in the case of the organization analysis phase of TICA, data is collected through interviews with key informants, review of administrative documents, collection of data from administrative databases and direct observation in accordance with consistent protocols. For example, in the case of a drug court session, the staff involved (e.g., the judge, the district attorney, the public defender, the treatment therapist, etc.) are interviewed to determine what activities they engage in to prepare for drug court sessions and what activities are involved in the drug court session itself, how much time is spent per participant within the session as well as the length of the total session. Administrative records provide data on the number of drug court sessions that are attended by drug court participants.

Once this information is gathered on all program transactions, narrative descriptions of drug court system characteristics are created. Visual representations of the key drug court system transactions are also created to add layers of meaning to the organizational role flowcharts developed during the organization analysis phase.

The product of this stage of TICA is a clear picture of ways in which organizational resources (various human, material and monetary resources) in a variety of jurisdictions are applied in an area of public action. The resultant picture probably does not appear on the organization charts of the jurisdictions in question because it involves multiple agencies in different jurisdictions, all working together to produce a combined program that provides a new set of services. Using this approach, it is possible to determine the resources committed to a drug court program and its transactions for each agency involved (i.e., the cost of drug court per agency).

Key Concept 10:

The product of TICA's organization and transaction analysis is a clear picture of ways in which organizational resources (various human, material and monetary resources) in a variety of jurisdictions are applied in an area of public action. The resultant picture probably does not appear on the organization charts of the jurisdictions in question because it involves multiple agencies in different jurisdictions, all working together to produce a combined program that provides a new set of services.

Step 3: Specification and quantification of organization transactional resource commitments

During the transaction analysis phase of the TICA approach the “transactional areas” for each agency involved in drug courts are identified. The “transactional activities” pursued by each agency to meet its “transactional responsibilities” are also specified. With this information in hand, the researcher can proceed to identify and quantify “transactional resources” committed by each organization to each transactional area associated with the drug court system.

By “transactional areas” we mean collections of organizational activities associated with transactions identified by researchers in drug court programs or in the “business-as-usual” operating environment impacted by drug court programs. For instance, the drug court transactional area of “treatment” may include case management, outpatient treatment, and acupuncture services. “Transactional responsibilities” are specific things that agencies do in support of transactional activities. An example is progress reports preparation performed by treatment agency representatives in support of case management. “Transactional resources” represent the staff time and other “budgetable” organizational resources consumed in the pursuit of transactional responsibilities such as preparing progress reports.

Again, through semi-structured interviews with informants familiar with organizational commitments to drug court programs (e.g., agency financial officers), review of administrative records such as budgets and other financial reports, and observation, the following information regarding the transactional resource commitments of organizations are reported:

- *Agency name* – This seemingly simple and straightforward piece of information, without the application of TICA, can be the source of confusion and, ultimately, lead to inaccurate attribution of costs. During the organization and transaction analysis phases of the TICA approach the organization commitments to the drug court system at the jurisdiction, department/agency, division, office, and work unit level of the organization have been identified. The seeming banality of this exercise is, in actuality, exceptionally important in the development of the understanding of how institutionalized patterns of organizational structure designed to produce and deliver a set of specific services are transformed to meet the resource requirements of new programs such as drug courts. Precise identification of organization designation supports two important objectives of evaluation research: clarity and accountability.

- *Transactional area* – The commitments of the smallest organizational element to each key drug court system transaction is identified over the course of the organization and transaction analyses. For example, the FTE committed to drug court case management by the adult program unit of an alcohol and drug office of the behavioral health division of a county health department will be identified. As a result, transactional areas can be accurately matched to organizational commitments at the finest level of jurisdiction and agency organizational detail.
- *Transactional resource commitments* – The transactional resources (human and other resources that are directly involved in the operation of drug court transactional areas) are identified and recorded. A measurement of the periodic consumption of the indicated resource is also recorded – the number of hours per day, week or month for each position dedicated to the transactional area, for instance.

One of the challenges in assessing the transactional commitments of agencies to drug court systems involves the identification of roles played by contracted organizations – public or private. We say that this is a challenge in part because, once again, it involves information that does not normally appear within jurisdictional operating budgets or related documents. It may also be challenging because it may involve stepping into controversies involving the role of the private market and/or faith-based agencies in the provision of public services. However, to provide a complete picture of publicly financed commitments to drug courts and similar programs, TICA data collection protocols require that the analyst identify the total contractual resource commitment to each transactional area under consideration.

- *Transactional cost* – The periodic transactional cost, usually the “direct” cost, for each of the organizational resources committed to the drug court program is identified and recorded. For human resources directly committed to the drug court system, these costs include salary, plus fringes and benefits. They may also include the direct cost of materials such as drug test (e.g., urinalysis) materials. For contracted services such as those of a private treatment agency, the transactional cost would be the portion of total contractual cost applied to the transactional area under consideration.

The TICA approach offers policy makers and managers a realistic account of jurisdictional and agency organizational commitments to programs such as drug courts. It also presents realistic information regarding the impacts that programs such as drug courts have on “business-as-usual” organizational resources.

Step 4: Identification of institutional resources

The influence of a neo-institutional perspective on the TICA approach makes TICA sensitive to institutional transformation. We believe that this is of particular importance in the consideration of the introduction of new programs such as drug courts that involve the transformation of existing institutionalized organizations (such as the court administrations and drug and alcohol treatment agencies) to meet new programmatic objectives.

A consequence of the neo-institutional perspective in the TICA approach is that the total institutional support for the transactional resources applied in the drug court is considered. By “institutional support” we mean resources provided by agencies in the form of direction,

oversight, and support that make the application of transactional resources (staff and other organizational resources) to drug courts possible. Without the support of institutional resources such as clerical staff and information technology offices, agencies directly involved in the transactional areas of drug court systems would not possess the capacity to make resources available to drug court programs.

Institutional resources considered in the TICA approach include the following:

- Jurisdictional governance and management (e.g., the cost of governing bodies, jurisdictional agencies and budget offices);
- Jurisdictional operational support (e.g., allocated capital costs, the cost of the operating plant, clerical support, information technology support);
- Agency management (e.g., the cost of the office of the department director); and,
- Agency operational support (e.g., the cost of agency clerical resources and agency finance office).

The calculation applied to determine the level of institutional support provided for the drug court program transactions is straightforward: The institutional cost for drug court equals the total institutional cost multiplied by the percent of total operating costs that is dedicated to drug court. Viewed as a formula this calculation is:

$$IC_n = (TC_n / OC) \times IC_t$$

IC_n represents the cost of the institutional resources committed to a drug court program; TC_n represents the transactional cost associated with the drug court (the cost of agency resources directly committed to drug courts); OC represents total operating cost; and IC_t represents total institutional cost. This formula can be applied at the agency and the jurisdictional level. The cost factors resulting from this calculation are recorded on cost information collection instruments for each organization/agency for each transactional area in the drug court program.

A variety of sources can be used to identify institutional costs:

- Interviews with knowledgeable informants such as jurisdictional auditors and financial managers and agency financial managers;
- Jurisdictional and agency operating budgets;
- Jurisdictional cost allocation plans; and,
- Jurisdictional comprehensive annual financial reports (CAFRs).

One of the most significant contributions that the TICA approach makes to the application of CBA to local public programs lies in its consideration of the institutional commitments that jurisdictions and agencies make to programs such as drug courts. New programmatic initiatives, such as drug courts, represent transformation of the local public organizations and their institutional characteristics. TICA takes this into account.

Key Concept 11:

One of the most significant contributions that the TICA approach makes to the application of CBA to local public programs lies in its consideration of the cost consequences of institutional commitments that jurisdictions and agencies make to programs such as drug courts.

Step 5: Calculate Transactional and Institutional Costs

At this point, it should be self evident that an organization’s total costs for a transaction is the sum of the cost of the organization’s resource commitments to that transaction and the cost of the institutional resources committed to the support of that transaction.

The total cost of each transactional area of the drug court is the sum of the costs of the all resource commitments of all organizations that support the transactional area. For example, the total cost of a drug court session is the sum of the cost of the session for the Court, the District Attorney, the Public Defender, the treatment provider, etc. The total cost of the drug court program is the sum of the costs of all transactional areas that it encompasses. The cost of each individual who participates in the drug court program is the sum of the costs associated with every transaction in which that individual is involved (e.g., the number of court appearances, treatment sessions, drug tests, etc.). This can be expressed in terms of the following formula:

$$C_i = \Sigma (TC_t + IC_t)_1 \dots (TC_t + IC_t)_n$$

Where C_i represents the total program cost for a drug court participant, TC_t represents the transactional cost of transactions to which the individual is exposed, and IC_t represents the institutional cost associated with transactions in question.

Application of the TICA Approach in CBA

As indicated earlier in this paper, the purpose of the TICA approach is to enhance the realism and applicability of cost-benefit analyses (CBA) for state and local policy makers, public organization managers, program practitioners, and the research community. TICA should be equally useful for prospective and retrospective CBAs. Since our experience to date has been in the context of retrospective CBAs, we will limit our discussion of the application of the TICA approach in CBA to the retrospective sense.

In the CBAs that we have conducted with the TICA approach we have compared the cost consequences associated with samples of drug court program participants with those of similar individuals who have not participated in drug court programs. We have included costs from the perspectives of the criminal justice system, social services, victims of crime and other perspectives. For purposes of simplifying this discussion, we will focus on criminal justice system and cost to the taxpayer perspectives.

The general CBA method that we have used for drug court programs is to compare the total criminal justice system costs, including the drug court program costs, associated with samples of

drug court participants with the total criminal justice system costs of samples of similar individuals who have not participated in drug court programs. The difference in the costs of the samples has been expressed as the net benefit of the drug court program.

An obvious question comes to mind: *How are non-drug court or “business as usual” costs to be determined?* The TICA approach can be used to determine the costs associated with each component of the criminal justice system. The general methods that we described above to determine the costs of drug courts can be used to determine the costs associated with arrests, booking episodes, court sessions, jail terms, probation and criminal justice system-based treatment. In determining the monetary value of transactions in the “business-as usual” criminal justice system, the TICA approach allows for the calculation of the cost differences in criminal justice experience between samples of drug court participants and comparison samples.

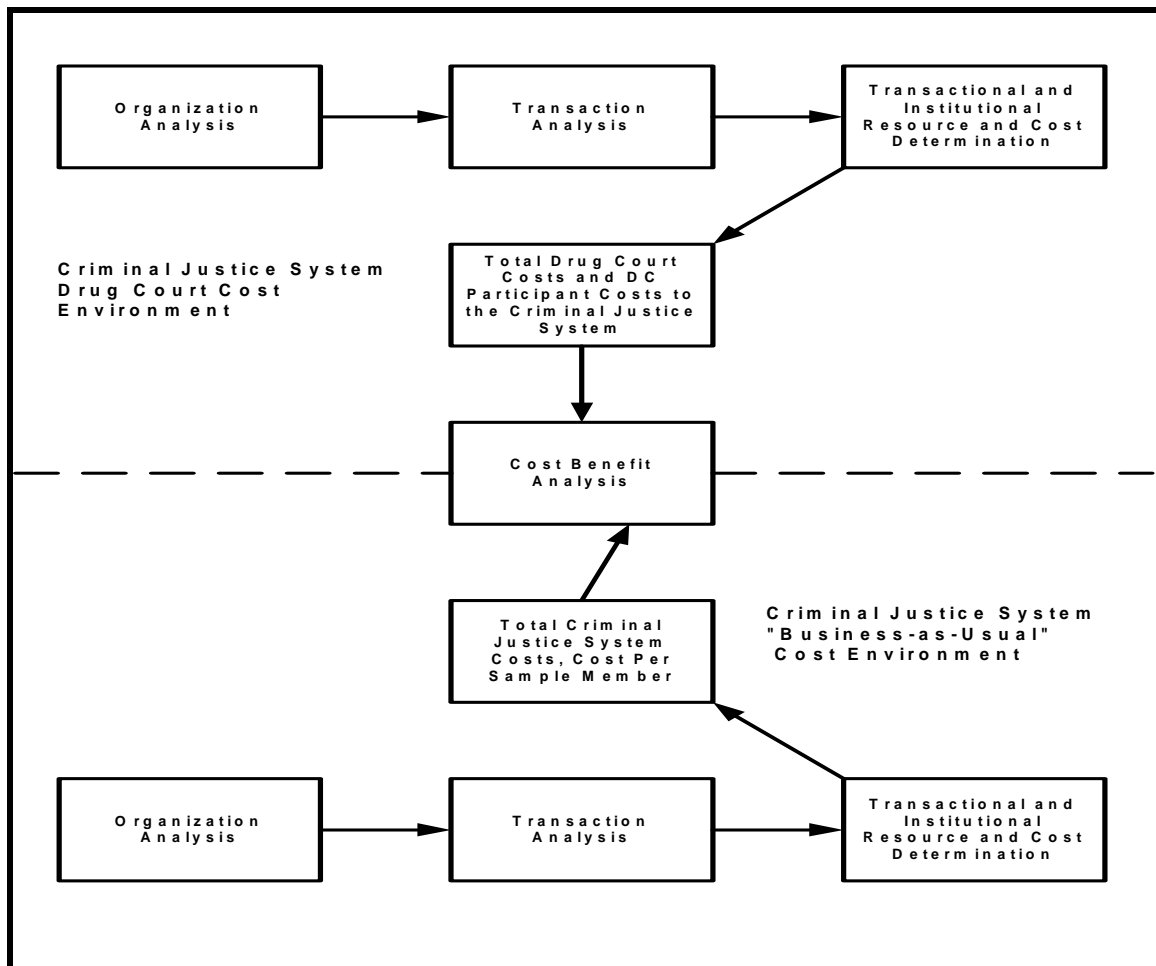
The TICA approach is as valuable in pricing the benefits of programmatic initiatives such as drug courts as it is in identifying the costs of these programs.

Key Concept 12:

The TICA approach is designed to realistically apply cost-benefit analysis in the evaluation of complex local public programs. This realism stems from meaningful analysis of organizational transformations (and their cost consequences) involved in programmatic initiatives such as drug courts. This results in CBA calculations that have practical application for state and local public policy decision makers. TICA results in realistic representations of the “cost” and “benefit” sides of CBA equations.

In Diagram 1 we demonstrate in schematic/graphic form the application of TICA within the context of drug court CBA.

Diagram 1 Application of the TICA approach in the Context of CBA.



The Interpretative Value of the TICA Approach in CBA

What makes the TICA approach valuable to state and local policy makers, public organization managers, program practitioners, and the research community? In the following four sections we consider the value of TICA to each of these audiences.

State and local policy makers

State and local governance of the production and delivery of drug court services is a blur of little understood relationships among and between state and local jurisdictions and agencies and private organizations. The TICA approach to program cost evaluation helps to make sense of this complex world for policy makers by supporting their governance and oversight missions with inter-agency program performance information. This information can facilitate informed decisions on resource allocation within or among the transactional areas or among agencies. It can assist policy makers in visualizing and analyzing public goods and services production (e.g., drug court programs) in ways that go substantially beyond typical organization charts and budgets. Policy-makers are assisted in understanding the scarce resources that they allocate through operating and capital budgets as “opportunity resources” – resources that can be

reprogrammed between or among jurisdictional or agency activities or used for other activities that generally meet the agency's mission.

Public organization managers

The TICA approach provides state and local public managers with tools for assessing their organizations' relationships with other organizations related to program transactions. It also facilitates the development of performance information that impacts human resource planning, budget preparation, capital improvements planning and other management requirements.

Program practitioners

Program practitioners are frequently the individuals who know best how to produce and deliver program services. However, they may not be fully aware of the extra-organizational commitments involved in the program. The systems perspective of the TICA approach can help managers and practitioners at the operating level to better understand how their contributions to transactional areas fit into the organizational commitments of the other organizations that contribute resources to the program.

Research community

In bringing to light a variety of organizational and institutional forces involved in complicated and inter-agency programs, the TICA approach can assist the research community interested in the effectiveness of drug courts and similar public programs in identifying new sets of variables to consider in their analyses, providing a more well-rounded look at these systems. TICA offers a substantial "dose of reality" regarding the highly contingent nature of social action and the difficulty of isolating cause and effect in the social world. If nothing else, TICA is a reminder to researchers of the power of March and Simon's concept of "bounded rationality" discussed earlier in this paper. In this light we see that the opportunities and limitations associated with implementing programs like drug court are significantly affected by their institutional roots.

Examples of the Application of TICA in Drug Court Cost Analyses

Over the past five years we have applied the TICA approach to cost analyses of more than a dozen drug courts in Oregon, California, and Maryland. In each case the cost analysis has followed program outcome evaluations that we have performed. In this work we have dealt with drug court programs that exhibit substantial variation in process and structure. We have encountered a broad range of demographic characteristics in the service areas of the courts under consideration. We have also found notable variation in the political setting of the courts.

In the following sections we will briefly discuss the work that we have done in Oregon, California and Maryland involving the application of the TICA approach. In these short discussions we will highlight examples from our experience that demonstrate the usefulness of the TICA approach.¹⁰

Baltimore City and Anne Arundel County Drug Treatment Courts

Overview

In the Autumn of 2002 we (NPC Research) were engaged by the Administrative Office of the Courts (AOC) of Maryland's Judicial Department and Baltimore Substance Abuse Systems, Inc. to perform cost analyses of the Baltimore City Circuit Court, the District Court Drug Treatment Court and the Anne Arundel County Drug Treatment Court located in Annapolis. Our research for the project was performed over the course of 2003 and our final report was presented to the AOC in January 2004.

The Maryland AOC asked us to answer two questions:

- How effective are the drug treatment courts?
- What are the financial costs and benefits of these programs?

Since we faced serious budget and time constraints we limited our examination of the effectiveness of the drug treatment courts to the metric of most immediate interest to criminal justice system policy makers and managers: criminal justice recidivist experience. In our consideration of the costs and benefits of the drug treatment courts we focused our examination of primary source data to criminal justice and substance abuse treatment cost factors. We also did cursory examinations of victimization and non-criminal justice/treatment system local public services cost effects.

Methodology

The methods involved in our Baltimore and Annapolis work closely adhered to the general method described earlier in this paper. The following are the most important elements of our general methodology:

¹⁰ Reports regarding the work discussed in this section can be found at our website: npcresearch.com.

- *Organization analysis* – As we indicated earlier, organization analysis is the essential first step of the TICA approach. As a result, in order to develop a detailed assessment of the organizational characteristics of the drug treatment courts, we spent many weeks interviewing judges, court administrators, state’s attorneys, public defenders, probation officials, treatment agency representatives, law enforcement officers, jail administrators and researchers familiar with Maryland drug treatment courts. To the extent possible, we conducted the interviews at the work locations of the knowledgeable informants. We believe that this helps us understand how their organizational commitments to drug treatment courts relate to their non-drug treatment court resource commitments. We also examined a variety of administrative documents, existing research concerning the programs¹¹ and observed drug treatment court sessions.
- *Transaction analysis* – Using the same sources of information utilized during the organizational analysis we identified the key transactional areas for which we would specify jurisdictional and agency resource commitments and assess service consumption by members of the study samples. Since we were concerned with all criminal justice and treatment costs associated with members of samples of drug treatment court participants and those of similar samples of non-participants, we identified the transactional areas of interest within the drug treatment court program and in the “business as usual” system of processing cases.
- *Resource identification* – Again, through interviews with key informants we identified agency resource commitments to each transactional area that we identified during the transaction analysis. In the interest of determining the cost consequences of agency transactional resource commitments as accurately as possible, we sought to collect information regarding agency activities as close to the operating level as possible. For instance, to specify probation agency resource commitments we interviewed the supervisor responsible for caseload-carrying probation agents. To determine the resources committed per case, resource commitments that we identified were combined with individual level criminal justice involvement and treatment data that we obtained from the State of Maryland and local treatment providers.
- *Cost assessment* – To determine the cost factors associated with agency resource commitments we interviewed or conducted other forms of communication with jurisdictional and/or agency financial managers and/or other administrators familiar with agency financial information. We also reviewed budgets, comprehensive annual financial reports, cost allocation plans, pay and classification plans, and other administrative artifacts. The result was a roster of cost factors resulting from a variety of methods of construction. For instance, some elements of cost (such as cost per hour of public defender time) could be easily constructed from administrative documents. Other elements of cost (such as time commitments of agency staff representatives to different drug treatment court activities) could only be determined through time-consuming methods of

¹¹ Denise C. Gottfredson and her associates Stacy S. Najaka and Brook Kearley at the University of Maryland-College have performed notable work regarding the Baltimore City Drug Treatment Court (BCDTC). For an example of their findings see:

Gottfredson, D.C., Najaka, S.S, and Kearley, B. (2003). “Effectiveness of Drug Treatment Courts: Evidence From A Randomized Trial.” *Criminology & Public Policy*, Vol. 2, Issue 2 (March), pp. 171-196.

observation and multiple iterations of consultation with key informants. Unit cost factors were constructed for each of the services provided within the transactional areas that we identified.

- *Apply cost factors to outcomes data* – The criminal justice system and drug treatment court experience of the samples was translated into frequencies and duration of exposure to the services provided within each transactional area that we identified (e.g., the number of drug court hearings, the number of drug tests, the number of re-arrests). The frequency and duration data was multiplied by the unit cost per transaction (e.g., the cost of a single drug court hearing, the cost of a single drug test) to generate total cost per offender (for both drug court and comparison group) per transactional area. The costs per transactional area were summed to produce total cost per offender, total costs for the transactional areas, and total costs for the samples.
- *Perform secondary cost analyses* – Using data from existing research concerning victimization costs and non-criminal justice system state and local public service systems savings associated with drug court participation, we created models that we applied to our samples.
- *Compare experience of samples* – Our analysis covered three years from date of qualification for drug treatment court for the Baltimore City samples and four years from the date of qualification for drug treatment court qualification for the Anne Arundel County samples. We compared our findings regarding the criminal justice experience of the drug treatment court and comparison samples. We also compared our findings concerning the cost consequences associated with the samples, resulting in a comparison of the monetary costs and benefits of the drug treatment courts.

Notable findings

Consistent with findings reported in the national drug court evaluation literature, we found that the drug treatment courts in Baltimore City and Anne Arundel County had positive results. We found notable reductions in recidivism and positive cost-beneficial effects associated with the drug treatment court groups as compared to the comparison samples. Rather than discuss our detailed findings, for purposes of this paper it may be more valuable to consider a few of the differences that we found between the programs in Baltimore and Annapolis. We believe that the TICA approach provided substantial assistance in identifying these differences and assessing their cost consequences.

The Anne Arundel County drug treatment court is located in Annapolis, less than 40 miles from the Circuit Court and District Court Drug Treatment Courts in Baltimore City. However, the programs in Baltimore and Annapolis exhibit substantial differences regarding how they are organized to do their work. Since Maryland is a relatively small state in geographic terms, with substantial state involvement in many criminal justice system activities (that may be local responsibilities in other states), it would seem reasonable to hypothesize a substantial amount of convergence in the organization and cost consequences of the drug treatment court and “business as usual” environments in Baltimore City and Anne Arundel County. However, we found substantial differences in the organization of the drug treatment court and business as usual environments. These differences result in notable differences in the cost consequences associated

with the drug treatment court programs. For example, the average total drug treatment court program cost per participant in Baltimore City was \$10,480 while that in Anne Arundel County was \$2,109. We believe that these organizational and cost differences may not appear in analyses using organizational and/or cost proxies or models drawn from national reports, or even from reports regarding nearby jurisdictions such as Washington, D.C. We also expect that an accounting of the effects of these differences may not appear in work performed using other methods less rigorous in their organizational assessments than the TICA approach.

Who does what? We found a number of interesting differences between the programs in terms of functional responsibility. Responsibility for incarceration provides an example. In Anne Arundel County we found that a County agency, the Department of Detention Facilities, was the incarceration service provider in most instances. In Baltimore City we found that two State agencies, the Division of Pre-trial Detention and Services and the Division of Correction, both located in the Department of Public Safety and Correctional Services, provided local jail services. This difference in organization has implications for the assessment of direct or what we refer to as the “transactional” costs: we found that the transactional cost per day of incarceration was \$59.56 in Baltimore City as compared to \$74.55 in Anne Arundel County. The organizational difference also has a number of consequences in the specification of what we call the “institutional” costs associated with the production and delivery of incarceration services. For instance, the overhead cost factors that should be considered are substantially different for the State agencies as compared to the County agency. This is demonstrated by our finding that institutional costs in Baltimore City per day of incarceration were \$50.29 as compared to \$39.89 in Anne Arundel County.

How is the work done? One of the most dramatic differences that we found between the drug treatment court programs in Annapolis and Baltimore City involved the provision of treatment services. In the Anne Arundel County program, treatment was the responsibility of the program participant and was almost always paid for through private insurance. In Baltimore City treatment was generally provided by private service providers under contract with and paid for by Baltimore City Health Department. Once again, these differences are most likely the result of dramatic differences in the socio-economic characteristics of the communities. However, they are notable differences with organizational and cost consequences that should be considered.

Jurisdictional roles. Although much of the role delineation between the Anne Arundel County and Baltimore City programs was consistent (for example, court administration, state’s attorney and public defender roles were similar in both programs), we also found interesting differences in jurisdictional roles. We have already noted differences in the provision of incarceration services. Another difference is somewhat subtler, but has operational and cost consequences. The Division of Probation and Parole of the Maryland Department of Public Safety and Correctional Services is involved in both programs. However, there is a great deal of difference in the *intensity* of its role. In Baltimore it is intimately involved in case management of drug treatment court participants. In Annapolis it is much less so. As a consequence, in Baltimore City the State’s role as stakeholder and the commitment of resources in the program is much more substantial than is the case in Anne Arundel County.

California Drug Courts

Overview

In 1999 The Judicial Council of California and its administrative unit, the Administrative Office of the Courts (AOC), secured a grant from the Drug Court Program Office of the United States Department of Justice to explore the feasibility of a statewide cost/benefit evaluation of adult drug courts. We were engaged by the AOC to perform this work early in 2000 and continue it to the present time.

The purposes of this statewide evaluation were:

- To develop a methodology that can be used by drug courts throughout California for ongoing cost-benefit evaluation beyond the conclusion of this project.
- To answer two critical drug court policy questions:
 - Are adult drug courts cost beneficial?
 - What adult drug court practices appear most promising and cost-beneficial?

The study was designed to address these questions in three Phases. Phase I was completed in May 2002. In the first phase we conducted an in-depth case study of three adult drug courts. This phase consisted of both an outcome evaluation and a cost-benefit analysis, the purpose of which was to develop the preliminary methodology and protocols for cost evaluation. In Phase II, we tested the methodology and protocols in six additional courts and created a preliminary tool for drug court self-evaluation. In the third phase the drug court self-evaluation tool will be tested and then launched statewide.

Phase I Methodology and Products

Phase I was conducted from May of 2000 to May of 2002. The main task of Phase I was to use our philosophy and approach (the TICA approach) to cost evaluation to develop a preliminary methodology and protocols for a statewide evaluation of California's adult drug courts. As a part of this task, it was necessary for us to test the effectiveness of the TICA approach by calculating the costs and benefits of drug courts in three sites located in three Central Valley and Southern Coastal metropolitan counties. These research sites exhibited diversity in terms of political, socio-economic and demographic characteristics. If the data needed to calculate costs could be located and obtained as predicted in our approach, then we would conclude that this approach was effective for this type of evaluation.

The main products of Phase I included:

- A preliminary method and protocols for cost evaluation of drug courts. This represented refinement and operationalization of the concepts and techniques associated with the TICA approach;
- Preliminary costs and benefits and promising proxies (cost estimates) identified through the examination of three participating adult drug courts; and

- An examination of the usefulness and effectiveness of the TICA approach to cost evaluation.

In order to build a valid and practical methodology, Phase I required the collection of detailed program process, outcome and cost data. The process involved in the collection of such highly detailed data was intended to teach us where to find the best sources of data; which methods of data collection were most efficient and cost-effective; as well as which data were most useful for cost analyses. The detailed information (along with similar data gathered in Phase II) also facilitated the development of useful proxies. For purposes of this project, proxies are estimates of various drug court costs and/or shorthand methods of obtaining such that can be used for drug courts that lack specific information, or in situations when the collection of certain data would be too costly to gather for a single court or on a statewide basis. The detailed information gathered in Phase I and II allowed us to create more useful proxies and to test the validity of more easily created proxies.

Phase II Methodology and Products

Phase II was conducted from May 2002 to July 2004. In this phase, data was collected from six additional adult drug court sites in five politically, socio-economically and demographically diverse counties located in the Central Valley and Southern Coastal metropolitan areas of California. These sites were chosen with the intent of including a diverse set of drug court types in terms of size, location and participant demographics. With the completion of this phase, in-depth information was gathered on nine drug courts throughout the State of California that represent a large percentage of the state's drug court participant population, as well as variety in population and practices among programs.

The main tasks for Phase II included:

- Test and refine the methodology and protocols developed in Phase I;
- Determine the costs and benefits of the six drug courts participating in this phase;
- Determine drug court practices that are promising and should be the focus of research on best practices;
- Develop and test proxies using data gathered at all nine drug courts (the three Phase I and six Phase II sites);
- Determine the minimum amount of data collection necessary to conduct a cost-benefit;
- Create a "proxy comparison group" for use in the self-evaluation of drug courts in Phase III; and
- Collect the data needed to create a tool to be used by drug courts statewide in Phase III for self-evaluation of costs and benefits.

Drug court cohorts were selected from the drug court databases at each site and comparison group cohorts were selected individually based on the drug court eligibility criteria for each site

and then matched to the drug court group using a propensity score matching technique. In each study site we applied the key steps of the TICA approach:

- Learn about drug court and non-drug court process,
- Identify the transactions within this process;
- Identify the agencies involved in each transaction;
- Determine the resources used during each transaction;
- Determine the cost of those resources; and,
- Calculate and compare costs.

Notable findings

For purposes of this paper we will limit our discussion to our findings regarding the value of our approach to cost analysis.

The results that we reported to the California AOC from our research across nine drug court sites demonstrate the facility of the TICA approach in this kind of multi-agency/multi-institutional setting. As we discuss elsewhere in this paper, drug courts are usually the product of contributions from the judicial system, the district attorney's office, the public defender's office, probation, etc. Such contributions generally do not take the form of cash transfers from jurisdictional or agency budgets to drug court budgets. Yet the contributions from multiple jurisdiction and agency sources are real and reflect resources - personnel, operating equipment, buildings and other resources - contributed from publicly funded budgets that may never show up in a drug court grant budget.

Some cost analyses associated with the implementation of drug courts have assumed that a reasonable way of assessing the cost of drug court is to focus on the funds spent creating the drug court (often federal grant funds spent on the project). This approach fails to account for contributions usually made to the operation of drug court by the existing criminal justice and treatment systems that are not funded by drug court grants. Thus, the approach of using federal seed money to assess investment costs seriously underestimates the investment of state and local taxpayer-supported jurisdictional and agency resources for drug court.

The data that we gathered in Phase II, reinforced by our findings in Phase I, support our argument. Although we did not separately assess the amount of funds from federal or other grants that supported the nine courts that we examined, we did examine all costs that were directly linked to the drug court programs and compared them to the total cost of processing particular cases through drug courts. This strategy took into account the whole system contributions to drug court cases and not just the narrower specifics of drug court programs paid for by grants. Our results for the nine sites show wide-ranging differences. In a Southern Central Valley program capturing the program costs alone (those costs associated with the drug court program only, such as drug court sessions, treatment sessions, case management and drug tests) described just 28% of the system costs in processing the drug court case while in a Northern Central Valley program this analysis identified 97% of the cost.

A second approach that has been used to assess investment costs in drug courts assumes that only costs that are “new” to the system with the implementation of the court should be considered as the “cost of” the program. This approach assumes that many of the investment resources are already present in the system and are therefore not new costs. Such costs associated with new resources introduced to the criminal justice system may include federal grant-funded drug court coordinators, case managers, drug counselors and the office space, equipment, supplies and other resources associated with their work. There are two primary reasons we believe that this approach does not work in complex inter-organizational settings such as the drug court operating environment. First, it fundamentally ignores changes that occur in a criminal justice system when a drug court is implemented. For instance, it fails to account for the fact that court calendars may change as other judges adjust caseloads to accommodate the drug court judge’s caseload. It also fails to assess the systemic effect involved in caseload re-assignments for probation officers resulting from the assignment of drug court caseloads (with typically more intensive supervision requirements associated with the drug court program) to existing probation staff members. In addition this approach seriously underestimates the cost of business as usual. It assumes that the drug court environment would not improve the cost of processing business as usual cases, thus offsetting some of the new costs and/or eliminating some business as usual costs.

The evidence from the California study supports our concerns. It is clear that in some cases the implementation of drug courts actually reduces the costs of processing eligible clients as compared to business as usual. In the Southern Central Valley county noted above, processing clients through drug court actually saves the criminal justice system \$1,500 per client. Marginal cost analysis may have identified the “new” costs from the introduction of the drug court program and failed to assess the savings that accrued from this new method of processing cases. It is also clear from several other sites that simply assessing the costs of all drug court components that are new to the system would significantly overstate the net cost of drug courts.

As a supportive element of our examination of nine drug court programs in California we performed what we referred to as an “organization matters” analysis. In this analysis we compared the nine programs in terms of how they are organized – the agencies involved and the human resources committed – to support the key transactional areas of the drug court programs. Although we found many similarities in the way that the programs are organized, we also found substantial variation in some transactional areas – variation that we believe contributes to cost variation. For instance, we found that three different agencies – court administration, probation, and treatment – may be responsible for program coordination in different drug court sites. We also found substantial variation in the amount of full-time equivalent (FTE) positions assigned by agencies to the key transactions of the drug court programs. This variation in the level of FTE had direct consequences for investment costs in the drug court programs.

Multnomah County Drug Court

Overview

In 2000 we secured a grant from the National Institute of Justice (NIJ) to perform a highly detailed cost-benefit evaluation of the Multnomah County Drug Court, located in downtown Portland, Oregon. In this project we proposed to accomplish the following tasks:

- Collect and examine data from a mature drug court using “high-intensity” cost assessment protocols developed specifically for this study and report these findings in a manner relevant to local policy makers;
- Examine the differences between proxy measures that we might have used in this study with the actual costs generated by our detailed cost assessment protocols; and
- Develop preliminary cost and cost offset assessment protocols that can be used by other drug court sites.

The Multnomah County Drug Court Cost Evaluation was the first project in which the TICA approach was applied in a drug court setting.

Research Design and Methods

The overall research design for this project involved the collection of detailed data on a small, randomly selected sample of individuals who were eligible for the drug court program. These individuals (some of whom participated in drug court and some who received traditional court processing) were tracked intensively through both the criminal justice system and the drug court program for the purpose of collecting more detailed data than is available in administrative datasets. The intensive tracking included following sample members into court hearings, the public defender’s office, treatment sessions and other relevant contacts and timing these transactions with stopwatches. Additional data was collected through extensive chart reviews and from multiple administrative data sets. These highly detailed data were used to augment administrative data collected at an individual level on a much larger sample of drug court and non-drug participants.

We collected data on the use of resources for each individual in each agency involved in drug court, including the court administration, public defender, district attorney, law enforcement agencies, probation, drug court treatment, and non-drug court treatment. We calculated total costs to the criminal justice system and to the taxpayer, including “investment” and outcome costs for both the drug court and “business-as-usual” process, for 30 months after the drug court eligible arrest. The development of the cost factors used in the calculation of drug court program and “business-as-usual” cost involved the application of the TICA approach as it has been described in this paper.

Notable Findings

Since this project involved one site, we are not able to report interesting inter-contextual findings such as those that emerged from our work in California and Maryland. However, certain of our findings regarding the Multnomah County Drug Court reinforce the value of the TICA approach in capturing organizational idiosyncrasies and their cost consequences.

One of the most striking of our findings was that the investment cost for the drug court case (including the initial arrest and jail time as well as the drug court program) was less than the cost for processing the same type of case through the business-as-usual system. This resulted from two primary factors. First, the costs associated with some elements of the cost environment (jail, probation and public defender) were much higher for the comparison sample than for the drug court program sample. Second, the difference in cost between the samples in terms of other cost

factors were found to be not as great as might be expected. Most notable among these was the cost of treatment, where we found that the cost of treatment for the drug court participants was only 32% higher than that for members of the comparison sample. Also notable was the cost for the court: the amount of time spent in court for drug court participants was almost identical to the time spent by non-drug court participants in the comparison sample.

This finding is similar to that for one of the sites in the California study. That this finding was also found in another court in another state supports our assessment of the inter-contextual value of the TICA approach. It also provides more evidence of the power of our approach to uncover information regarding the cost consequences of programmatic operational characteristics that may not emerge from analyses based on other cost approaches, such as the assumptions of traditional marginal cost theory.

Interpreting This Experience

The differences that we found in drug court and business as usual costs in nine court settings in one state leads us to believe that understanding local variations in transforming existing institutional arrangements in local criminal justice systems is of great importance in assessing the cost consequences of alternative criminal justice programs. As a result, we believe that our findings are a solid step in meeting the challenge offered by NIH/NIDA in defining the meaning of “cost” for programs such as drug courts (Yates, 1999). We have found that it is much more important to understand cost consequences resulting from complex linkages among jurisdictions and agencies invested in and affected by drug courts than to simply apply existing methods based on marginal cost analysis. We believe that our approach supplements and adds substantial power to existing approaches.

Conclusion

Cost Analysis of Drug Courts Viewed As an Organization Analysis Problem

Analysis of drug courts is ultimately an issue of determining their value to the welfare of communities. This overarching analysis is built on a variety of supportive analyses that consider issues related to the nature and effect of this innovative intervention in local systems of criminal justice and substance abuse treatment. We believe that an area of supportive analysis that has received too little attention in the study of complex organizational interventions such as drug courts concerns organizational factors. We also believe that lack of attention to organization factors may result in cost evaluations that are less than complete and meaningful in terms of the way that they “fit” the reality of systems of local governance.

In their work, *The Challenge of Organizational Change: How Companies Experience It and Leaders Guide It*, Rosabeth Moss Kanter and her associates, Barry A. Stein and Todd D. Jick (Kanter, Stein, and Jick, 1992), argue that organizational change like that associated with drug courts is more complex than analysts think. To understand the complexity of organizational change Kanter and her associates offer an “action model” of organizational change that supports a useful analytic framework for the study of drug courts. In their action model they emphasize how variable amounts of existing organizational resources are drawn from their existing organizational moorings to blend with resources drawn from other organizations to meet new requirements, typically in clusters of new organizational activities. These changes have substantive impacts on the new organizational form, the existing organizations, and broader organizational environments.

Drug courts represent dramatic changes in organizational form. Reflecting the view of Kanter and her associates, changes in organizational form involved in the formation of drug court programs include changes in relationships in the organizational environment (the criminal justice and treatment environments), changes in internal coordination (relationships among prosecutors, public defenders and probation agents, for instance), and changes in control structures (partial substitution of direction by drug court judges of agency staff members supporting drug court for their regular hierarchical direction). The TICA approach recognizes the importance of understanding these organizational changes to the understanding of the nature of the organizational innovation. It also takes an understanding of organizational change and translates it into meaningful cost analysis.

Through its organization and transaction analyses, the TICA approach generates comprehensible pictures of how existing organizational resources are transformed to support new clusters of activities that support new sets of organizational logic in drug court programs. In combining this understanding with a familiarity of local public financial management, the TICA approach generates analyses of deep and practical value to policy makers, public organization managers and program practitioners.

Understanding The Drug Court “Black Box”

Over the past few years a growing number of students of the drug court movement and the evaluation research that has been performed concerning its effectiveness have expressed concern regarding the level of understanding of how drug courts work. These commentators on the state of drug court research have lamented the incomplete picture that exists concerning which components of drug court operations contribute to or detract from the effectiveness of this form of “problem-solving court.” An example of this concern can be seen in Turner, et al.’s (2002) examination of the first decade of drug court research:

... we ... need to address basic concerns regarding the “concept” of drug treatment court and our understanding about how drug treatment courts work – which components are the most influential ... Our work in drug courts suggests that no unifying perspective now exists regarding structural and process characteristics implied in the concept of the drug treatment court ... structure and process are not described fully, if at all, in many drug treatment court evaluations, and the information they do provide is often not amenable to comparison, (p. 151).

Taxman and Bouffard (2002) echo this assessment of a deficiency in the drug court research literature concerning the connection between drug court structure and procedure and drug court effectiveness:

... research is ... needed to determine whether and what components of the drug treatment court’s operation fulfill the goal of reducing recidivism ... Only by completely understanding the operation of the drug treatment court model, in all its variations, can definite and useful conclusions about its effectiveness be drawn. Without examining the specific processes taking place within the typical drug treatment court ... conclusions about the effectiveness of programs calling themselves “drug treatment courts” are premature. (p. 1685).

Two explanations have been offered by critics of this shortcoming in drug court research literature. Some commentators have pointed to the variation found among drug court programs. This is reflected in the assessment of drug court differences offered by Harrison and Scarpitti (2002):

Although there are critical elements that define a drug treatment court, the model has been widely adapted ... there are subtle differences in various components of criminal case processing, offender eligibility requirements, treatment models, drug use testing and reporting, and availability of ancillary services, (p. 1442).

Belenko (2002) has focused on a second challenge to understanding how the drug court “black box” works: the organizational complexity that surrounds drug court programs. He notes that the organizational fragmentation found in the criminal justice and treatment systems, combined with the organizational complexity of the drug court intervention itself, have had confounding effects on analysis of drug court operations. Belenko argues that this condition of organizational fragmentation and complexity has made it difficult for researchers to obtain treatment and other service-related data. However, it has also made it difficult for analysts to perform cost analyses. As a result, he says that

... comprehensive analyses are still needed of the real costs of drug treatment court operations (including direct and indirect criminal justice, treatment services, and other service costs) as well as the net economic benefits (or cost offsets) resulting from drug treatment court impacts on recidivism, drug use, employment, health, and other outcomes, (Belenko, 2002, p. 1649).

We believe that the Transactional and Institutional Cost Analysis approach to cost analysis represents a useful response to these concerns. By taking into consideration the organizational complexity of the systems from which resources for drug courts are drawn, as well as the complexity of the organization of the drug court program, the TICA approach is able to provide an enhanced understanding of the costs associated with the structural and process characteristics of the drug court “black box” and to meet the challenge to determine the “real costs” of drug courts.

References

- American University, Justice Programs Office, Drug Court Clearing House (2004). Available on-line, www.spa.american.edu/justice/pubindex. Accessed, September 20, 2004.
- Aos, S., Phipps, P., Barnoski, R. and Lieb, R. (2001). "The Comparative Costs and Benefits of Programs to Reduce Crime." In Welsh, B.C., Farrington, D.P., Sherman, L.W. (eds.). *Costs and Benefits of Preventing Crime*, 3 – 19. Boulder, CO: Westview Press.
- Belenko, S. (2002). "The Challenges of Conducting Research in Drug Treatment Court Settings." *Substance Use & Abuse*. Vol. 37, Nos. 12 & 13, pp. 1635 – 1664.
- Brint, S. and Karabel, J. (1991). "Institutional Origins and Transformations: The Case of American Community Colleges." In W.W. Powell and P.J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis*, 337 – 360. Chicago: The University of Chicago Press.
- Carey, S. and Finigan, M. (2003). *A Detailed Cost Analysis in a Mature Drug Court Setting: A Cost-Benefit Evaluation of the Multnomah County Drug Court*. Portland, OR: NPC Research.
- Carey, S. and Finigan, M. (2004). "A Detailed Cost Analysis in a Mature Drug Court Setting: A Cost-Benefit Evaluation of the Multnomah County Drug Court." *Journal of Contemporary Criminal Justice*, Vol. 20, No. 3 (August), 315 – 338.
- Carey, S., Finigan, M., Crumpton, D., Waller, M., and Lucas, L. (2004 – in process). *California Drug Courts: A Methodology for Determining Costs and Benefits. Phase II: Testing the Methodology*. Final Report presented to the California Administrative Office of the Courts.
- Clingermeier, J.C. and Feiock, R.C. (2001). *Institutional Constraints and Policy Choice: An Exploration of Local Governance*. Albany, NY: State University of New York Press.
- Crumpton, D., Brekhus, J., Weller, J., and Finigan, M. (2004). *A Cost Analysis of the Baltimore City, Maryland Drug Treatment Court*. Portland, OR: NPC Research.
- Crumpton, D., Worcel, S. and Finigan, M. (2003). *Analysis of Foster Care Costs from the Family Treatment Drug Court Retrospective Study: San Diego County*. Portland, OR: NPC Research.
- Finigan, M.W. (1996). *Societal Outcomes and Cost Savings of Drug and Alcohol Treatment in the State of Oregon*. Portland, OR: NPC Research.
- Foster, E.M. and Holden, E.W. (2004). "Benefit-cost Analysis in the Evaluation of Child Welfare Programs." *Focus*, Vol. 23, No. 1 (Winter), 44 – 49. Madison, WI: Institute for Research on Poverty, University of Wisconsin-Madison.

- Gottfredson, D.C., Najaka, S.S, and Kearley, B. (2003). "Effectiveness of Drug Treatment Courts: Evidence From A Randomized Trial." *Criminology & Public Policy*, Vol. 2, Issue 2 (March), 171-196.
- Gordan, A.R. and Martin, T.J. (1999). *Cost-Benefit Analysis of Iowa's Family Investment Program: Two-Year Results*. Des Moines, IA: Iowa Department of Human Services.
- Government Finance Officers Association (1994). *Performance Management: Using Performance Measurement for Decision Making – Updated Performance Measures*. Washington, DC: Available on-line at www.gfoa.org. Accessed September 21, 2004.
- Government Finance Officers Association (GFOA) (2002). *Best Practices in Public Budgeting*. On-line: www.gfoa.org/services/nacslb/. Accessed August 20, 2002.
- Greenwood, P.W., Karoly, L.A., Everingham, S.S., Hoube, J., Kilburn, M.R., Rydell, C.P., Sanders, M., and Chiesa, J. (2001). "Estimating the Costs and Benefits of Early Childhood Interventions." In Welsh, B.C., Farrington, D.P., Sherman, L.W. (eds.). *Costs and Benefits of Preventing Crime*, 3 – 19. Boulder, CO: Westview Press.
- Harrison, L.D. and Scarpitti, F.R. (2002). "Introduction: Progress and Issues in Drug Treatment Courts." *Substance Use & Abuse*. Vol. 37, Nos. 12 & 13, pp. 1441 – 1467
- Kanter, R.M., Stein, B.A., and Jick, Todd D. (1992). *The Challenge of Organizational Change: How Companies Experience It and Leaders Guide It*. New York: The Free Press.
- Martinez, R.J. & Dacin, M.T. (1999). Efficiency Motives and Normative forces: Combining Transactions Costs and Institutional Logic. *Journal of Management* 25 (1), 75 – 97.
- Morgan, D. and Robinson, K. (2000). *Handbook on Public Budgeting*. Portland, OR: Hatfield School of Government, College of Urban and Public Affairs, Portland State University.
- Nas, T.F. (1996). *Cost-Benefit Analysis: Theory and Application*. Thousand Oaks, CA: Sage Publications.
- Perrow, C. (1986). *Complex Organizations: A Critical Essay*. New York: McGraw-Hill, Inc.
- Scott, W.R. (1991). "Unpacking Institutional Arguments." In W.W. Powell and P.J. DiMaggio (eds). *The New Institutionalism in Organizational Analysis* (pp. 164-182). Chicago: The University of Chicago Press.
- Scott, W.R. (2001). *Institutions and Organizations (Second Edition)*. Thousand Oaks, CA: Sage Publications.
- Sen, A. (2001). "The Discipline of Cost-Benefit Analysis." In M.D. Adler and E.A. Posner (eds.), *Cost-Benefit Analysis: Legal, Economic, and Philosophical Perspectives*, 95 – 116. Chicago: The Chicago University Press.

- Sewell, M. and Marczuk, M. (2004) *Using Cost Analysis in Evaluation*. Tucson, AZ: University of Arizona, College of Agriculture and Life Sciences, Cooperative Extension.
- Taxman, F.S. and Bouffard, J. (2002). "Treatment Inside the Drug Treatment Court: The Who, What, Where, and How of Treatment Services." *Substance Use & Misuse*, Vol. 37, Nos. 12 & 13, pp. 1665 – 1688.
- Turner, S., Longshore, D., Wenzel, S., Deschenes, E., Greenwood, P, Fain, T., Harrell, A., Morral, A., Taxman, F., Iguchi, M., Greene, J., and McBride, D. (2002). "A Decade of Drug Treatment Court Research." *Substance Use & Abuse*. Vol. 37, Nos. 12 & 13, pp. 1489 – 1527.
- Welsh, B.C. and Farrington D.P. (2001). "Assessing the Economic Costs and Benefits of Crime Prevention." In Welsh, B.C. and Farrington, D.P. (editors), *Costs and Benefits of Preventing Crime*, 3 – 19. Boulder, CO: Westview Press.
- Welsh, B.C., Farrington, D.P., Sherman, L.W. (eds.) (2001). *Costs and Benefits of Preventing Crime*. Boulder, CO: Westview Press.
- Yates, B.T. (1999). *Measuring and Improving Cost, Cost-Effectiveness, and Cost-Benefit For Substance Abuse Treatment Programs*. Rockville, MD: National Institute on Drug Abuse, NIH Publication Number 99-4518.