Performance Measurement for Justice Information System Projects

A Guide by the
Center for Society, Law and Justice
Texas State University

BJA Bureau of Justice Assistance

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PART I
Crafting Performance Measures

CHAPTER 1
Introduction: What Are Performance Measures?

Support for information technology projects in government is becoming more and more dependent on hard evidence that such investments yield significant benefits. For criminal justice and law enforcement agencies, this need means that new information system projects must be justified in terms of documented improvements in justice, efficiency, and public safety. This justification is often made with performance measures.

The U.S. Department of Justice Office of Justice Programs' Bureau of Justice Assistance (BJA) provided initial support for this guide to help criminal justice and law enforcement justice information sharing professionals develop performance measures for their projects. These measures are important for agency management and planning and help BJA fulfill its own responsibilities to assess the projects it supports. The guide helps managers, staff, and executives develop measures in two ways: by offering comments and advice on the process of developing measures, and by providing a catalog of workable examples for specific types of projects.

This guide is also designed to assist criminal justice information sharing professionals implement special *summary performance measures*[1] (to support the Office of Management and Budget (OMB) Program Assessment Rating Tool (PART) review)that BJA has developed to meet its responsibilities under the Government Performance and Results Act (GPRA). Congress requires all federal agencies, including BJA, to provide performance measures assessing the value of their funding programs. These summary measures will allow BJA to aggregate the results of many projects into a few general measures to document the value of its overall investment in criminal justice and law enforcement information justice information sharing projects.[2] These measures are presented and explained in more detail in Part II.

1. These broad measures, presented in Part II, represent key criminal justice goals and are selected to capture the effects of as diverse a set of criminal justice information system projects as possible. The seven measures are believed to cover almost all such current and recent projects.

2. Congress enacted the GPRA in 1993 to make the managers of federal agencies accountable for the results of agency and program activities. The Act requires the establishment of measurable agency and program goals through the development of long-term strategic plans and annual performance plans and requires each agency to issue an Annual Performance Report detailing actual results compared to performance goals. To meet the requirements of GPRA, BJA must annually provide performance measures capturing the value of its funding programs to OMB.

Types of Measures

This guide and the catalog of examples focuses on those three types of performance measures most useful for measurement of the results of your agency's project: *output, outcome,* and *efficiency* measures:[3]

Output measures: Any **product** of a project activity. Output measures are usually indicators of the volume of work accomplished (e.g., number of traffic stops, number of officers attending training) as opposed to the intended results of that work (e.g., reduction in traffic fatalities, reduction in citizen complaints about officers' behavior).

Outcome measures: The **consequences** of a program or project. Outcome measures focus on what the project makes happen rather than what it does, and are closely related to agency goals and mission (e.g., reduction in reported crimes, reduction in highway deaths, improved conviction rates, reduction in officer injuries). These are measures of intended results, not the process of achieving them.

Efficiency measures: Measures that indicate the **effect** of the project on a criminal justice agency's efficiency in its use of resources (e.g., cost, time, personnel).[4]

Characteristics of Good Performance Measures

Development of performance measures can be complex. Useful, workable measures must balance a variety of characteristics that are difficult to achieve simultaneously.

Important characteristics of good performance measures include:

1. Goal-focused. The measure must be an indicator of the achievement of an agency goal, not just a count of your agency's activities. The goal should be accepted as important by citizens and public officials outside your agency.

2. Feasible. The measure must be possible for your agency to implement. The agency must have the subject matter expertise, time, personnel, technical capability, and access to the information necessary to implement the measure.

3. There are other types of performance measures used in agency-wide strategic planning (such as input and quality measures) and a variety of other terminology used in the performance measurement literature, which are not used in this guide for ease of presentation.

4 Note that OMB PART defines an efficiency measure in a somewhat different way. There it is defined as a measure that captures a funding program's ability to implement its activities and achieve results relative to resources. In other words, PART focuses on the efficiency of BJA's management and operation, not on that of the grantee agencies.

3. Inexpensive. Implementation of the measure must be relatively reasonably priced, or it will compete for resources needed to accomplish your agency's goals.

4. Understandable. The measure must be clear and simple enough to be successfully communicated to, and understood by, non-experts.

5. Unambiguous. The measure must be stated in language sufficiently precise to be unambiguous. (Such precision sometimes requires legal and technical terms that place this feature into direct conflict with #4 above.)

6. Accurate. The measure must accurately capture the events or condition it is supposed to be an indicator of.

7. Valid. The measure must be designed to minimize bias, error, and distortion.

8. Project-linked. Causal connections must be established between the project and the measures of agency goal achievement.

All these characteristics need to be taken into consideration when designing performance measures for your agency's project. Good measures balance a variety of interests and serve multiple purposes.[5] Given the challenges of project performance measurement, good performance measures fall somewhere between sophisticated (and expensive) program evaluations and simplistic performance measurement designed to show only positive results.

Developing performance measures for an information technology project involves asking and answering a series of questions:

- Which goals does the project help us achieve?
- How does the project help us achieve those goals?
- What are the best measures of those goals?
- How should those measures best be implemented?

Each question involves a host of considerations and leads to a variety of other, more specific questions. Each of these questions is addressed in the chapters that follow.

The variety of considerations described above—and others introduced in this guide—means that the answer to one question will often lead you to reconsider others. For example, thinking through ways to measure a goal

5. A good source for useful measures can often be found in solicitations, guidelines, and requirements for funding programs that have been used to finance the project. These sources often specify not only broad goals but, also suggest performance measures or point to current and emerging standards such as the Law Enforcement Information Sharing Program (LEISP), National Data Exchange (N-DEx), and Regional Data Exchange (R-DEx) that could form the basis for performance measures.

will often lead you to restate the goal itself in more concrete terms. Consideration of implementation problems or potential biases in a measure might require rethinking the measure itself. Measures that appear simple and straightforward at first may become much more complex when you try to define words in concrete terms, and will need to be revised. Thus, the process of developing good measures is not a simple series of tasks that is performed only once, from start to finish, but a backward and forward process that can be lengthy.

The sheer number of ideas and issues introduced by this guide might at first make development of good measures appear complex. The task will always be a balancing act, in which compromises must be made and common sense applied. The "perfect measure" will rarely be feasible, but measures need not be perfect to be useful and meaningful. Like effective government, performance measurement is as much art as science.

Part I of this guide is divided into chapters based on the key performance measure question it addresses:

- Which goals does the project help us achieve? Strategies for developing goals statements for the project based on the agency's mission and the contribution the project makes to that mission.
- How does the project help us achieve our goals? Project implementation techniques based on understanding the chain of results that tie the project to the goals.
- What are the best measures of our agency's goals? Introduction of a variety of issues regarding the formulation of useful measures, including issues specific to criminal justice and law enforcement projects.
- How should our performance measures best be implemented? Discussion of the details of performance measure implementation that can critically affect their meaning and usefulness.

Part II is a presentation of the seven summary performance measures, a variety of project specific measures, and suggestions for use.

CHAPTER II
Which Goals Does the Project Help Us Achieve?

The thinking process used to develop performance measures for your project begins by asking questions about the purposes the IT project seeks to accomplish. The purposes should be expressed in terms of your agency's goals and mission.

Agency Mission and Goal Statements

Mission and goal statements should be clear, specific, and concrete. They should ideally be developed through a strategic planning process and by a broad range of criminal justice and law enforcement information sharing practitioners.

The basic functions of criminal justice and law enforcement agencies, of course, are similar from county to county and state to state. Useful statements of mission and goals for law enforcement agencies, prosecutors, courts, community and institutional corrections, and other specialized components of the criminal justice system (such as crime laboratories) are often available from their respective national professional organizations. Many of these organizations have developed professional standards and accreditation programs. These standards are often the best source of criminal justice goals that have been stated in measurable terms.

Identifying Project Goals

Your information technology project will usually address some, but not all, of the agency's goals and only a part of its mission. The following questions aim at identifying those goals that the project is intended to help your agency achieve:

- What is our IT project for?
- Why is it important?
- Why did we want it?
- What problems does our project solve?
- What will be different after our project is completed?

Often, when these questions are asked explicitly, it will turn out that your agency's executives, managers, technical staff, and line personnel supply a wide variety of answers. Selecting those parts of the agency's mission and, ultimately, outcome measures for relevant agency goals will depend on developing a common set of answers to these questions.

The following list (developed following review of criminal justice policy statements and those of major professional organizations) provides suggestions for widely held criminal justice goals and covers a broad spectrum of functions across the criminal justice system. These statements (not in order of importance) provide an overview of the criminal justice and law enforcement purposes justice information sharing can be used to address and can provide a starting point for defining goals addressed by your agency's particular project. The catalog of project measure examples in Part II suggests how these goals statements relate to particular projects.

Criminal Justice Goals for Information Technology

1. Decrease law enforcement response time to citizen calls for service through the use of information systems to manage law enforcement services.
2. Increase clearance rate by enhancing law enforcement investigative capacity through information technology
3. Enhance the safety of law enforcement officers by increasing information available to patrol officers and dispatchers..
4. Reduce gun violence in our communities through the use of information systems and technologies to restrict unlawful access to weapons by unauthorized individuals.
5. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users.
6. Reduce the availability of dangerous drugs by facilitating the investigation and prosecution of dangerous drug manufacture and distribution through increased information sharing.
7. Reduce domestic/family violence through improved information sharing among justice and social service agencies.
8. Strengthen the relationship between criminal justice and law enforcement agencies and the community they serve through increased information sharing with the public.
9. Improve linkages among criminal justice and non-criminal justice agencies and organizations through improved information sharing.
10. Improve the ability of prosecutors to secure convictions through more effective case management and information exchange with other justice entities.
11. Improve information sharing to defense bar attorneys improving capacity to provide reasonable defense to accused clients.
12. Provide services and information related to specific offenders to victims and potential victims of crime through information systems.
13. Improve law enforcement effectiveness through data-driven management.

14. Improve judicial decisions by expanding the scope and analysis of information available.
15. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing.
16. Reduce errors in justice process operations through improved information sharing and management.
17. Protect the safety and security of correctional personnel and inmates by improving the information available to correctional officers and staff.
18. Reduce offender recidivism and improve community supervision compliance through increased information availability, communication, and risk assessment.
19. Intervene in criminal careers by providing information to focus criminal justice efforts on serious repeat offenders.
20. Intervene in criminal careers by providing information to design and manage rehabilitation efforts.
21. Enhance the ability to make appropriate hiring decisions for sensitive positions through increased access to complete and accurate criminal history and status.
22. Improve prevention and intervention efforts aimed at-risk youth through expanded information sharing and analysis.
23. Prevent acts of terrorism by improving information sharing and coordination among justice agencies.
24. Enhance response to acts of terrorism and other civil emergencies by improving information sharing among justice and emergency response agencies.

CHAPTER III
How Does the Project Help Us Achieve Our Goals?

An important part of the thinking process for development of performance measures involves determining how the project's justice information strategy will in fact affect the agency's intent in implementing the project's justice information sharing strategy. In technical terms, a *chain of results* is identified as a series of steps linking project activity to agency performance and agency performance to important results that affect the lives of citizens.

This chain of results does not flow automatically from the project's technology. Information technology is not a silver bullet that automatically ensures positive results. Justice information sharing is only a tool. The way that tool is used determines its results. Therefore the agency's strategy for project implementation is inseparable from the chain of results linking the project to its outcomes. Each depends on the other.

Chain of Results

Your agency's executives and managers will often have some assumptions about the impact of the new technology and a rough idea of how the technology might lead to positive results. Making those assumptions and those ideas explicit is an important part of identifying the chain of results connecting the project to its benefits.

The following are the types of questions that will help your agency work out how it expects the project to lead to desired outcomes:

- Why do we believe that our justice sharing project will result in improvements in the way we do our job? What is the impact of the information sharing project on day-to-day activities?
- What new information will be available as a result of the goals of the project? How is this important in achieving project goals?
- To whom will this information be available?
- How might that information help users do their jobs more effectively?
- How might the new information be reflected in the way they do their jobs?
- In what circumstances will this new information be most important?

One method for working out and presenting the chain of results is a *logic model,* a structured approach to determining how program components are logically connected, how program activities will lead to the accomplishment of project intent, and how these link to project justice

information sharing goals.[6] It is a useful tool for thinking through the series of steps which connect the project to the agency's performance of its mission.

Project Implementation Strategies

Agency managers must develop the project's implementation strategy based on their beliefs about the chain of results. The strategy might include any of the following elements:

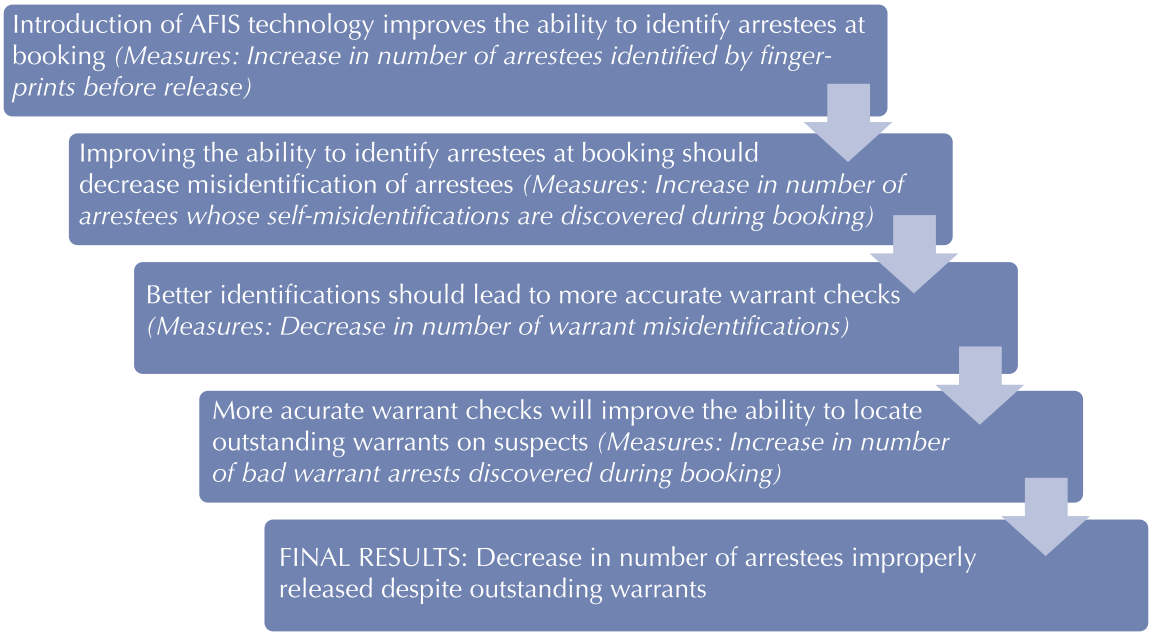
- Creation of a project implementation team.
- Modifying agency business processes, such as work and information flow.
- Development of new cooperative relationships with other agencies.
- Hiring of technical or other specialist staff.
- Reassignment of personnel.
- Redefining tasks and job descriptions.
- Investment in new training.
- Investment in technical infrastructure.
- Coordination with other agency projects.

Testing the Chain of Results

Performance measures can be used to assess whether your assumptions about the chain of results are correct. A chain of results describes a cascade of changes in conditions, events, or activity that is initiated by the project and influenced by the strategies your agency applies to make it work. Some of the links in the chain may be measurable, some may not. If the predicted changes along the causal chain can be verified through performance measurement, the argument that the project achieved its goals becomes much more powerful.

6. See BJA's "Planning the Evaluation: Working with Program Logic Models" at www.ojp.usdoj.gov/BJA/evaluation/guide/pe4.htm for useful examples and links to other resources.

Chain of Results Example: AFIS* PROJECT



* Automated Fingerprint Identification System.

CHAPTER IV
What Are the Best Measures of Our Agency's Goals?

Obviously, implementation of the project aims to produce *change*. An output measure may simply be a count of project-related activities, but an outcome measure must somehow indicate change in events or conditions related to the project. There are a number of ways to construct such a measure, but the final choices are based on a balancing act of considerations related to clarity, validity, feasibility, and accuracy.

Idealized Measures

It often works best to develop ideal performance measures first, and then adapt them to what is possible in the real world. Ideal measures answer the question:

> If unlimited information and resources were available, what measures would our agency choose to assess the achievement of the goals related to the project?

It turns out that thinking about ideal measures actually helps agency managers and executives define precisely what they mean by a goal. It requires them to think about their expectations for the project in concrete and explicit terms. Differences between the ideal measure and the measure finally selected also may highlight areas where there may be problems of accuracy, validity, or interpretation.

Measuring Change

Outcome measures are indicators of the changes the agency has brought about through the project. The outcome measure, explicitly or implicitly, is a comparison of conditions or events during a time or in a place not affected by the project to those when and where the project has been implemented. There are at least three strategies for measuring change:

1. Pre-/post-project measures of change. These measures compare periods prior to and after implementation of the project. What is compared may be numbers in any of a variety of formats (see the chart below), but it is critical that the numbers be collected, as much as possible, in a comparable way. For example, if numbers rather than rates are compared, pre- and post-periods of the same length should be compared or a time-based rate (such as arrests per day) should be used.

2. Subset comparison measures of change. These are more sophisticated measures of pre-/post-project change that compare changes in areas affected by the project to those not affected. For example,

if a technology were installed in some, but not all, police districts in a city, this measure would express the difference in changes in affected districts from those not affected.

3. But-for measures. These are measures that count outcome events that could only have occurred with project technology. For example, a new crime-solving technology, such as DNA testing, might have as an outcome measure the number of crimes solved with the technology that *would not have otherwise* been solved. Capturing these measures might require a case-by-case analysis where the technology has been used and often involves judgment calls. In some ways these measures are more powerful and convincing indicators of the technology's impact than other options, because they can eliminate alternative explanations for change.

Each approach to measuring change has advantages and disadvantages, and each introduces its own set of possible biases and distortions.

Interpreting Change

Pre-/post-project change is the most commonly used indicator of a project's impact. Arguing that measured change is caused by the project, however, requires careful consideration. Agency personnel/management changes, changes in funding level, political events, social events such as economic or demographic changes, and technological changes outside those of the information technology project are just a few of the intervening events that may also explain the observed change. Some of these events may be unknown until much later or may never be fully understood. Even if the intervening events are known, their impact may be unknown and, realistically, unknowable. Even if they are recognized as important, it may not be possible to create scientific controls for them in the design of the measure—in that the measures may not consider these external events.

Format

A performance measure is usually a quantity expressed as a number. The selection of format depends in part on the nature of the events, conditions, or activity to be measured. But as the table below indicates, the choice is also based on a variety of other considerations involving the meaning and validity of the measure.

Common Performance Measure Formats

Format	Examples	Uses
Simple Number	Number of warrant arrests. Number of cases cleared using the new technology. Number of automated information exchanges.	Typically used for counts of events. Qualifying statements and counting rules can sometimes be used to construct sophisticated measures based on simple numbers.
Percentage, ratio expressed in hundreds	Percent of crimes cleared by arrest. Percent of case dispositions recorded in repository. Percent of homicide cases refused by the district attorney (DA).	Sometimes the accurate calculation of a denominator (divisor) in such measures (see in particular the first example) is much more difficult than calculation of the numerator.* When properly used, this type of format helps to control for variation in group size when comparisons between groups are made.
Average, arithmetic mean	Average minutes required to complete a jail intake booking. Average number of 911 calls answered per officer per shift.	A measure of central tendency that uses the actual value of each case. It is, however, very sensitive to extreme cases on either end of a distribution or to small groups.
Median, 50th percentile value	Median minutes required to complete a jail booking. 90th percentile response time to call for service.	The point at which half the data is above the point and half is below the point. This measure of central tendency is not sensitive to extreme values. This is the central tendency of choice when the data contains extreme cases.
Comparison to standard	Percent of criminal cases brought to trial in less than 180 days. Percent of 911 calls with officer on-scene within 15 minutes.	This is a number constructed as percent of compliance to a standard. The standard might be established in agency policy, or it might be a professional or legal standard like the speedy trial act.
Indices and other compound measures.	Compliance score for mandatory standards in National Commission on Correctional Health Care evaluation. Quality of Supervision Index** (15 item total).	Compound formats such as these are often the best way to construct a number capturing broad concept goals such as "quality" or "professionalism." The best of these are based on professional standard setting and accrediting organizations. The problem with such formats is that measures of change do not in themselves indicate the nature of the changes that occurred. You know change occurred, but not in which specific area of the activity.
Sample-based mean	Percent of citizens "satisfied" or "very satisfied" with law enforcement service, based on a random telephone sample. Percent of prison records with significant clerical errors, based on a sample audit.	Often, available resources make sampling the only way to determine a value from a large number of cases or events, especially when the information is not present in an electronic database. However, proper comparisons based on samples require inference based on statistical tests (i.e., confidence intervals), and care must be taken to ensure that true random samples of sufficient size are taken.

* Use of percentages may also introduce issues of case selection and counting rules. See Selection of cases and follow-up periods in the next chapter

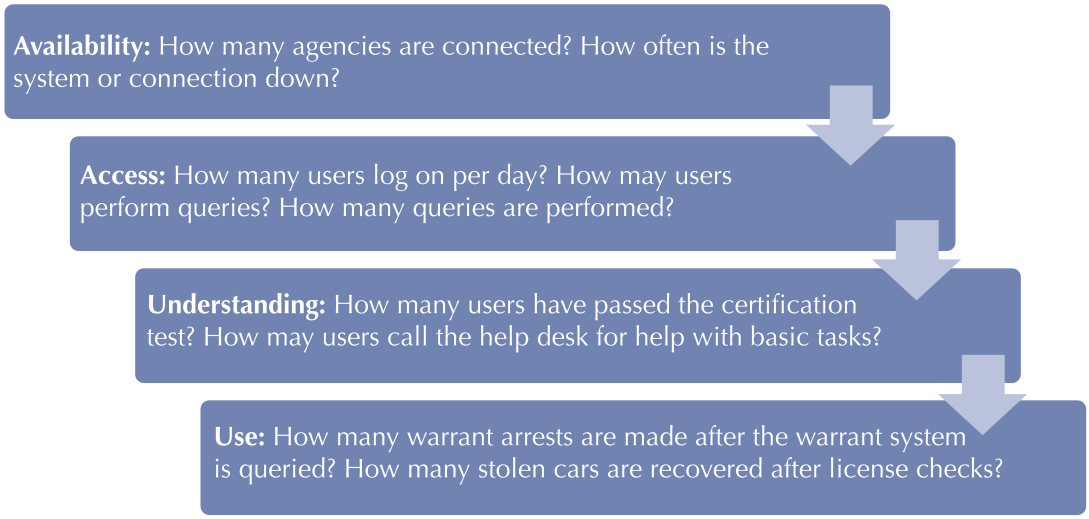
** This index is a hypothetical example.

Measuring Information Use

Performance measures must carefully distinguish the availability of new information from its actual use: the new or improved information improves the performance of the agency only if it is acted upon. To be used, the new information must be not only *available*, it must also be *accessed* and *understood*.

A network connection or a password to a new system indicates availability of the information provided by the new system. Performance measures may be designed to capture this availability. Once available, a worker may or may not actually access the system—actually log on and begin to review records or enter data. The information accessed may or may not be understood, depending on the experience and training of the user and the user-friendliness of the system. The worker may choose to use the understood information, that is, his or her behavior may be affected by it, or the worker may ignore it. Each of these dimensions of information use can be measured.

Information Use Process



Measuring Efficiency

One of the key selling points of justice information sharing is personnel efficiency. Through the elimination of redundant data entry; the need to access multiple systems for information; calling and response delays involved in use of the telephone, fax, and teletype; and human time and

labor involved in the movement of paper operations become more efficient and less expensive.

A number of considerations arise when measuring this efficiency such as:

- When calculating manpower and cost efficiency, your agency must account for the costs involved in implementing and maintaining the information system, including those in ongoing maintenance and training, as well as the amortized initial costs of planning, design, implementation, and capital investment.
- Improvements in manpower efficiency depend not only on the new software applications but also on how your agency changes its ways of doing business to take advantage of the new system. Reducing the time it takes to perform a task, however, may not actually result in improved cost efficiency. For example, the natural tendency of most workers to work "easier" when they have less work to do will erase cost savings unless management adjusts schedules and expectations to account for increased efficiency of the systems used. Correcting for this possibility will help support the "real world" value of the measure.[7]
- If the project makes new information available, it is possible that more work will be required by the new information. Improved access to warrants, for example, is *intended* to increase warrant arrests and will naturally lead to higher processing and incarceration costs for the agency. This possibility, too, requires correction in the design of your measure.

Measuring Error

One widely cited advantage of criminal justice information technology systems is the reduction of errors—clerical errors, miscommunication, and misinterpretation—that may, for example, lead to unwarranted arrests and detentions or failure to apprehend or detain dangerous individuals.

There are challenges involved with use of error as a basis for a performance measure for criminal justice information system projects:

- A new information system may illuminate errors that would previously not have been discovered—not just in that agency's system but in other systems connected to it. Performance measures comparing pre-/post-project error may therefore reflect changes not in actual error, but only in the ability to discover it.
- Generally known "horror stories" (i.e., when an error in justice information sharing results in a negative event) are usually too infrequent

7. If greater efficiency is accomplished by giving the worker other tasks rather than expecting the worker to increase the rate of the performance measured activity, the performance measure may fail to capture the true efficiency improvements.

to serve as reliable indicators of change. When measures of error are based on routine reporting by employees, it is only human nature (in the absence of automated error reporting) that the willingness to report errors will change as more attention is focused on measures of these events.

- As improvement in a system occurs, expectations may increase. Individuals might be encouraged to report problems they once would not have bothered reporting. Measures that show increases in error based on complaints filed by those outside the system (e.g., citizen complaints to Internal Affairs, inmate grievances, employee grievances) might actually indicate an improvement in the image of the agency rather than an increase in error.

Measuring Justice

Many criminal justice information system projects aim for improvements both in the quantity and quality of information available to criminal justice decision-makers. Whereas it is believed that improvements will help them make better decisions, quality of decision-making is very difficult to measure because it cannot be easily defined as a quantity of something (which is, of course, what a measure is). For example, higher quality judicial decisions in setting bonds is not indicated by higher or lower average bonds, but by more *appropriate* bonds. In other words, the goal is an increase in the quantity of *justice*. This proves to be very difficult to measure.

Justice is one of the primary goals (some would argue *the* primary goal) of the criminal justice system. Because one often cannot measure the justice of a system directly[8], there is a danger that in developing performance measures for criminal justice we lose focus on it. This is a specific example of a larger issue in performance measurement: the measure-driven tendency to focus on quantity at the expense of quality.

8 Social scientists sometimes attempt to measure concepts such as justice or fairness through such constructs as "sentencing disparity" or some indicator of bias based on race, class, or gender—the way ideas such as bias are expressed. Also, why would better information improve the quality of justice?

CHAPTER V
How Should Our Performance Measures Best Be Implemented?

Working out the Details

Performance measurement will always place demands on agency resources and will therefore compete with other agency priorities. Often information is not maintained in a form easily amenable to measurement or not maintained at all. Sometimes important data is in the control of other organizations. These problems can be addressed either by finding creative ways to capture needed data or by modifying measures to make them easier to implement.

It is rarely understood that the way measures are actually executed is critical to their meaning. Questions about definition of terms, time periods and counting rules, which cases should be included and excluded, and whether sampling should be used have to be answered with an eye to the validity and meaning of the performance measure.

Definition of Terms

Most of the words in the statement of a performance measure are subject to interpretation. In criminal justice there are terms that either have specific legal meanings (e.g., "capias" or "subpoena") or have commonly applied meanings for historical reasons. One example is the term "cleared by arrest" as it is used by the Federal Bureau of Investigation in the Uniform Crime Reports (UCR) program. Most law enforcement departments use the term in a similar way because their UCR reporting obligations require them to classify reported offense dispositions that way.

To make performance measurement understandable to the non-justice practitioner (e.g., the public, legislators, the press), technical language such as information system, legal, and specialized criminal justice process terms must be replaced by less precise language. In order to actually implement the measure, however, the reverse is true. Each term—not just the nouns but also the verbs and adjectives as well—have to be defined with care and precision. These definitions must be drafted in terms of the agency's specific business processes, operating environment, and information recording practices. They have to take cognizance of the agency's own use of terms, which might be idiosyncratic.

Definitions of terms will have important consequences for counting rules (see below). An example is the term "arrest." The following questions indicate some of the counting complexities involved:

- If a suspect is taken into custody by law enforcement, and that seizure is converted to a summons before booking, is that an arrest?
- If a suspect is picked up by law enforcement and booked with crimes in two separate incidents, is that one arrest or two?

- If an inmate in custody attacks a correctional officer and is charged with battery, is that an arrest?
- If an inmate escapes from jail and is recaptured, is that an arrest?
- If a defendant fails to appear for court, and he is subsequently picked up on a bench warrant, is that an arrest?

Similar sets of questions may be asked about many of the terms found in performance measures, or about other technical terms used to define those terms. It is worth the effort to think through those definitions carefully and to apply them as rigorously as possible, since leaving the meanings vague will lead to implementation problems.

Measures Pre- and Post-Project

Ideally, data for measures should be recorded automatically as the normal work of the agency is carried out. New information systems can be designed to store information in the form needed for performance measurement, and management reports could include calculated values corresponding to the measures. Pre-project measurement typically presents more of a challenge, as needed data may have been maintained in manual form or stored in an inconvenient fashion. Part of the expense of capturing the measures might therefore include manual collection and tabulation of data. Development of special computer programs developed specifically for extracting and merging information from older, legacy information systems might also be required. These expenses all should be considered when deciding whether a particular measure is worth the cost.

Beyond cost and feasibility issues, comparison of pre-project and post-project periods when different methods of measurement are used must be done with great care. A measure that must be estimated pre-project from a sample of manual files, for example, might be captured post-project very precisely from a database produced by a newly automated process. Key information may not have been recorded at all in earlier periods or may have been recorded at an unknown level of consistency and accuracy.

Time Periods

When time periods are used as a basis for comparison, a series of critical decisions are necessary that can have significant consequences on indicators of project outcomes. These include selection of start and end dates, selection of cases, follow-up periods, and exclusion of cases.

Start and end dates

Performance measures for an information systems project are often comparisons between time periods prior to system implementation and other periods after new systems are in operation. In the middle are the project

implementation periods. A series of questions needs to be considered about these time periods.

- When does the project implementation period begin? Does it begin when funding is received? Contracts are signed? Work starts?
- When does the period end? When the hardware and software are installed? When the technicians are hired? Trained? Become experienced? When the word has spread to potential users on the new uses of the technology?
- Is it worth capturing measures during the implementation period, as some affects of the technology may manifest themselves even before every element is in place and operational?
- What should the length of the before and after periods be? The longer each period is, the larger the number of potential cases and events available to construct the measure is. In the follow-up period a longer time will allow the agency to fully implement the training, reorganization of tasks, and interagency coordination necessary to make the new technology effective.

As in so much of performance measurement, the choice of time periods should be the result of a balancing of all these considerations.

Selection of cases and follow-up periods

Related to the issue of time periods is the selection of cases for comparison. Many of the events justice information sharing projects seek to influence are the characteristics of entities that persist in time, such as incarceration periods and criminal cases. Rules for how these entities are selected may have profound impact on how the performance measures are constructed.

The case selection issue is closely related to follow-up period decisions. Consider the following example:

> A district attorney's stated performance measure is "the percentage of filed cases where a conviction was obtained." There are at least four different ways to count "filed cases" during a measurement period:
>
> 1. All cases opened during the period (some will have closed during the same period, some in later periods).
> 2. All cases closed during the period (some will have opened in prior periods, some in the same period).
> 3. All cases both opened and closed during the same period.
> 4. All cases open at any time during the period (includes all categories above).

In the first and third cases, the final disposition of all the cases might not be available for many years. In the second case, all final dispositions will be available, but much of the case activity for some of these cases may have

occurred far in the past. Only in the fourth case does all case activity occur in one period and are all final dispositions available. However, such short-lived cases may be very different from the average cases handled by the district attorney and may be biased toward more easily resolved cases.[9]

Thus selection both of the numerator (cases convicted) and the denominator (filed cases) is subject to debate, and each combination of options will produce different results.

When new information systems are implemented, improvement in performance measures is to be expected over time as the system "takes effect," spreads, or increases. Deciding what an appropriate post-project period for measuring this effect depends on when the project is expected to exert its affects. For example, as information workers learn about or become more comfortable with a new information capacity, greater productivity results. The innovation may take years to be absorbed by the agency. The reworking of business processes that the innovation makes possible may not be completely carried out for years. Some projects may result in a gradual performance improvement stretching over a period of years. Others may show an initial drop in performance as the agency adjusts to a new information system, a recovery period, and then unprecedented improvement. Eventually, the effects are likely to reach a plateau. This leveling off can occur soon after the project is completed or years later.

Exclusion of cases

There may be good reasons to exclude individuals or cases from the performance measures:

- The IT project may be designed only to affect a certain type of case or be applicable only to a certain type of individual. A new computer-aided dispatch (CAD) system, for example, may allow improved prioritization of calls for service. An outcome measure such as response time to calls, then, might collect response times only to priority calls, with the definition of priority based on objective criteria that allows comparison to a pre-project time period.
- A criminal case processing measure might ignore cases where the defendant is at large.
- There might be valid reasons to exclude multi-jurisdictional cases from law enforcement investigation efficiency measures (unless the project is multi-jurisdictional in scope).

What is important is that counting rules that exclude cases and other entities from a measure be established before the data is collected. Those rules should be based on carefully articulated, reasonable grounds, and result in a fair assessment of project effects.

9. The focus here is on counting and follow-up issues. There are many other difficult issues not discussed here. For example, if the DA drops charges in some cases for guilty pleas on others or in exchange for information on other suspects, should these "not convicted" cases be counted as failures?

PART II
Performance Measures for Justice Information Sharing

CHAPTER VI
Introduction

Performance measures can be a vital tool for agencies to manage and justify their justice information sharing efforts. This guide is intended to address those needs. The guide is also designed to help U.S. Department of Justice Office of Justice Programs' Bureau of Justice Assistance (BJA) meet its obligations. These entities must use performance measures for two purposes:

1. To assess the value of their investments in justice information sharing;

2. To determine whether a particular project or project type provides a reasonable return on their investments.

Part I of the guide is designed to provide grantees with conceptual tools to be used as they implement responsive performance measures, which will, in turn, help BJA answer the first need. Part II presents the seven specific summary performance measures BJA has identified to manage and justify its investments, along with guidance on implementing them. These broad measures of key criminal justice goals were developed so that at least one would be applicable to each type of criminal justice information system project. For some projects, more than one summary measure might be appropriate.

This section also provides concrete examples of project-specific measures for the grantee. These measures are designed to be starting points for the design of measures fitted to the specific features of a particular project and the organizational environment in which the project is implemented.

CHAPTER VII
Summary Performance Measures

The need to summarize such a diverse set of projects in only seven measures meant that the most significant impact of some types of projects is not represented in the summary measures, though important contributions are captured from most. The following presentation of the seven measures includes the project types they are associated with and an example of a summary statement that might be used to communicate the results.

Summary Measure 1

Percent decrease in average law enforcement response time to priority calls for service.

Project types: Computer-Aided Dispatch (CAD) systems, COMPSTAT, and Crime Mapping Applications

Summary Statement Example: After implementation of BJA-funded information technology, response time to priority citizen calls for service was decreased by an average of 7 percent.

This measure is expressed as percent improvement in average response time from pre-project to post-project periods. Because BJA recognizes that technology for managing the assignment of law enforcement officers will be used differently by different agencies depending on the needs of their community and the policing philosophy of the agency, the definition of "priority" calls is left to the agency, and can either be based on existing agency policy or defined for the purposes of the measure if no written policy exists. It is essential, of course, that the definition applied be identical for both periods.

Summary Measure 2

Increase in percent of events (arrests, charging decisions, and court dispositions) that the responsible agency has posted to the state criminal history repository within 30 days of occurrence.

Project types: Electronic State Criminal History Repository, Automated Fingerprint Identification System (AFIS), Prosecutor Computer-Based Management System, Court Computer-Based Management System, U.S. Department of Justice's Global JXDM Implementation

Summary Statement Example: After implementation of BJA-funded information technology, an average of 12 percent more criminal justice events (arrests, charging decisions, and court dispositions) were posted to a state criminal history repository within 30 days.

The posting of arrests and dispositions to criminal history repositories has been recognized as an important issue in criminal justice since the establishment of national and state fingerprint-based criminal history repositories. These information sources are essential to decisionmaking in every component of the criminal justice system

This summary measure indicates which relevant projects have contributed to improving the repository reporting of the projects' agency. Each project type will affect the reporting of different events. Therefore, for this summary measure, each project type has its own version of the measure (see table on page 32).

Summary Measure 3

Number of additional automated criminal justice information exchanges made possible by the project.

Project types: Criminal Justice Information Sharing, Law Enforcement Records Management System, Institutional Correctional Management System, Prosecutor-Based Management System, Court Computer-Based Management System, Global JXDM Implementation, Drug Court Computer-based Management System, Probation/Parole Computer-based Management System

Summary Statement Example: Information technology funded by BJA made possible 1.4 million additional automated criminal justice information sharing exchanges.

This measure should be expressed as the number of new automated criminal justice exchanges (transactions) made possible by the project or through project technology. Included are interagency exchanges and intra-agency exchanges (automated exchanges of information between departments or functions of an agency). Intra-agency exchanges are limited to those that replace a document exchange. An exchange may include actual transmission of a packet of information (such as arrest and booking information from a booking agency to a prosecutor) or the posting of information to a database that is later retrieved by another agency or department.

Some of the electronic exchanges counted here replace information sharing through other means and some will represent the sharing of information not previously exchanged. This measure is designed to capture, simultaneously, both the improvements in efficiency and coordination information technology provides.

Just as with Measure 2, different project types will have different versions of this measure based on the nature of the transactions automated.

Summary Measure 4

Increase in percentage of UCR Part I crimes (excluding larceny-theft) cleared within one year of occurrence.

Project types: Automated Fingerprint Identification System (AFIS), Intelligence Management and Analysis System, UCR/NIBRS Data Mining System

Summary Statement Example: An average of 9 percent more UCR Part I crimes (excluding larceny theft) were cleared within one year after adoption of BJA-funded technology.

This measure should be based on percent of crimes reported during a pre-project period that were cleared within a year after reporting compared to the same percentage for a post-project period.[10] Other serious crimes, especially drug offenses, are typically identified through law enforcement proactive efforts. In such cases the term "cleared by arrest" is less meaningful. Solving crimes is, of course, a critical part of the law enforcement mission. The one-year follow-up period is chosen to address counting and follow-up issues involved in comparing pre- and post-project periods (see chapter V).

Summary Measure 5

Number of arrests/detentions made possible by the project.

Project types: Automated Fingerprint Identification System (AFIS), Institutional Correctional Management System, Warrant Repository

Summary Statement Example: 13,230 arrests and/or detentions were made possible through information technology funded under BJA programs.

This measure counts all instances in which an individual is taken into custody or detained because of project-provided information. "Made possible by" in this measure means that the arrest or detention would not have occurred without the information provided by the project technology. Different types of projects may have widely varying information technologies and, thus, might affect the number of arrests and detentions in very different ways.

Project-specific versions of this measure are based on the way the new information provided by each project type makes possible arrests or detentions.

10. "Clearance" refers to the UCR definition of "crimes cleared." UCR Part I non-theft crimes are used in this measure because they represent the bulk of serious crimes likely to be reported to law enforcement.

Summary Measure 6

Number of additional queries of special high-risk individual databases (e.g., domestic violence, sex offender, and terrorism databases) made possible by the project.

Projects types: Sex Offender Database System, Domestic Violence, Order of Protection Database, Automated Victim Notification System (SAVIN*), Handgun NICS database

Summary Statement Example: 1,334,000 additional checks of justice databases for high-risk individuals (e.g., sex offenders, domestic abusers, terrorists) were made possible by information technology funded under BJA programs.

*Statewide Automated Victim Information and Notification.

This measure should be expressed as the number of queries of databases designed to identify specific types of individuals who may pose a threat to the public. Criminal history and warrant databases, as well as other systems of general criminal justice use are not included. Some projects will actually create the database in question. Others may establish a new method of access or open access to additional groups of agencies or individuals. The measure must be implemented in such a way as to identify increases in the volume of queries that are attributable to the project.

This measure is designed to simultaneously capture the availability and usefulness of these specialized information systems.

Summary Measure 7

Increase in percent of felony cases reaching disposition within established time standards.

Project types: Law Enforcement Records Management System, Institutional Correctional Management System, Prosecutor Computerized Management System, Court Computerized Management System, Drug Court Computerized Management System, Laboratory Information Management System (LIMS)

Summary Statement Example: Information technology funded under BJA programs made possible an 8 percent increase in the number of felony cases meeting established time standards.

This measure should be expressed as the change (pre-project to post-project) in percent of felony cases reaching disposition under established time standards of all cases reaching disposition during each period. Start time should be considered date of arrest. Disposition refers to final disposition

(e.g., sentencing, not guilty verdict, DA refusal or *nolle prosequi*) not counting appeals. Standards may be established by state statute based rules of procedure, local court rules, or statewide rules established by a supervisory court. If no such standard exists, a reasonable standard may be established for purposes of the measure as long as the same standard is used for both pre- and post-project periods.

Since the measure is based on cases ending during each period, some (sometimes most) of the activity of included cases in the post-project measurement period will have occurred prior to the period. To mitigate this problem, the post-project period should be selected as long after project implementation as possible. (See time period discussion in Chapter V.)

The following table provides a cross-reference between the BJA summary measures and the project type versions of those measures. This table is followed by definitions of project types and detailed suggestions for implementing specific measures.

Summary and Project Performance Measures

Summary Performance Measure	Project Type	Project Performance Measure
1. Decrease in average law enforcement response time to priority calls for service	Computer-Aided Dispatch	Percent decrease in average law enforcement response time to priority calls for service
	COMPSTAT/Crime Mapping	Percent decrease in average law enforcement response time to priority calls for service
2. Increase in percent of events (arrests, charging decisions, and court dispositions) that the responsible agency has posted to the state criminal history repository within 30 days of occurrence	Electronic Criminal History Repository	Increase in percent of events (arrests, charging decisions, and court dispositions), which the responsible agency has posted to the repository within 30 days of occurrence
	Automated Fingerprint Identification System (AFIS)	Increase in percent of arrests that the booking agency has posted to the repository within 30 days of occurrence
	Prosecutor Computer-based Management System	Increase in percent of prosecutor charging decisions that have been posted to the state criminal history repository within 30 days of occurrence
	Court Computer-Based Management System	Increase in percent of court dispositions which have been posted to the state criminal history repository within 30 days of occurrence
	Global Justice XML Data Model (JXDM) Implementation	Increase in percent of events (arrests, charging decisions, and court dispositions) which the responsible agency has posted to the state criminal history repository within 30 days of occurrence

3. Number of additional automated criminal justice information exchanges made possible by the project	Criminal Justice Information Sharing	Number of additional automated criminal justice information exchanges made possible by the project
	Law Enforcement Records Management System	Number of additional automated information exchanges both within the law enforcement agency and between the agency and other justice or regulatory agencies that are made possible by the project
	Institutional Correctional Management System	Number of additional automated information exchanges both between departments or functions of the correctional agency and between the correctional agency and other criminal justice agencies that are made possible by the project
	Prosecutor Computer-Based Management System	Number of additional automated information exchanges both within the prosecutor's office and between criminal justice agencies and the prosecutor's office made possible by the project
	Court Computer-Based Management System	Number of additional automated information exchanges both within the court and between criminal justice agencies and the court made possible by the project
	Global JXDM Implementation	Number of additional automated information exchanges both within and between criminal justice agencies made possible by the project
	Drug Court Computer-Based Management System	Number of additional automated information exchanges both within the drug court and between criminal justice agencies and the drug court made possible by the project
	Probation/Parole Computer-Based Management System	Number of additional automated information exchanges both within the agency and between criminal justice agencies and the agency
4. Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence	Automated Fingerprint Identification System (AFIS)	Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence
	Intelligence Management and Analysis System	Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence
	UCR/National Incident Based Reporting System (NIBRS) Data Mining System	Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence
	COMPSTAT/Crime Mapping	Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence

5. Number of arrests/detentions made possible by the project	Automated Fingerprint Identification System (AFIS)	Number of warrant arrests made after alias identifications (false self-identification) discovered through AFIS search at booking
	Institutional Correctional Management System	Difference (pre-project to post-project) in number of warrant arrests made during admissions or release due to the project
	Warrant Repository	Number of arrests made of wanted individuals resulting from the use of electronically available warrant and detainer information
6. Number of additional queries of special high-risk individual databases (such as domestic violence, sex offender, and terrorism databases) made possible by the project.	Sex Offender Registry	Number of additional queries of sex offender registry made possible by the project
	Domestic Violence, Order of Protection Database	Number of additional queries of Order of Protection database made possible by the project
	Automated Victim Notification System (e.g., SAVIN)	Number of additional victim notifications, phone queries, and electronic queries by victims made possible by the project
	Handgun National Instant Criminal Background Check System (NICS) database	Number of additional handgun NICS checks made possible by the project
7. Increase in percent of felony cases reaching disposition within established time standards	Laboratory Information Management System (LIMS)	Increase in percent of felony cases reaching disposition within established time standards
	Law Enforcement Records Management System	Increase in percent of felony cases reaching disposition within established time standards
	Institutional Correctional Management System	Increase in percent of felony cases with defendants in custody reaching disposition within established time standards
	Prosecutor Computer-Based Management System	Increase in percent of felony cases reaching disposition within established time standards
	Court Computer-Based Management System	Increase in percent of felony cases reaching disposition within established time standards
	Drug Court Computer-Based Management System	Increase in percent of felony cases reaching disposition within established time standards

CHAPTER VIII
Project Type Examples

This chapter provides more detail on performance measurement for each of 19 criminal justice information system project types. The project types have been developed to encompass the great majority of criminal justice information system projects, and detailed descriptions of each type are provided to help match a particular project to its type. In fact, some large projects may fall into more than one of the project types listed here. For each project type, its BJA summary measure(s) are presented in the form appropriate to the project, along with specific guidance for calculation and implementation.

Along with the summary measures, other project performance measures are also suggested, which the user can adapt for internal management purposes or for demonstration of project benefits to other public agencies, legislators, the media, or the community.

Automated Fingerprint Identification System (AFIS)

DESCRIPTION: This project type includes all projects that build or expand the capacity of an AFIS operation, including original installation/implementation of an AFIS; increase in throughput by upgrade of software, hardware, or communications system; addition of Livescan devices (including mobile devices), latent stations, or verification stations; expansion of agency participation, or establishing electronic links between AFIS and the state criminal history repository.

I. BJA Summary Performance Measures for the Project

MEASURE: Increase in percent of arrests that the booking agency has posted to the repository within 30 days of booking.

This is the project-type version of summary measure #2: "Increase in percent of events (arrests, charging decisions, and court dispositions) that the responsible agency has posted to the repository within 30 days of occurrence."

How to Calculate the Measure: This measure is most appropriate for AFIS projects, which enable a booking agency to more rapidly submit the fingerprints of booked arrestees to the state criminal history repository through of Livescan devices in booking facilities, linking those devices electronically to a statewide AFIS, or linking statewide AFIS to a state criminal history system.

The measure is the difference between pre-project and post-project percentages of arrests posted within 30 days. The percentage for each period should be calculated as follows: The denominator used to calculate each percentage is the total of all arrests occurring during the period. This total includes all relevant arrests posted to the repository plus all those that occurred but were not posted. (If the project affects only postings of a particular type of arrests, arrest type should be used to filter out postings in the repository not relevant to the project. The number of events not posted can be calculated by determining the difference between the relevant event counts in booking agency records and the count of those events posted to the repository.)

The numerator used to calculate the percentage for each period is the number of posted arrests that were posted within 30 days. (The occurrence date of the event, not the posting date, should determine in which period it is counted.) The state's criminal history database should include date fields indicating the date each posted arrest was added to the database and the date of the arrest itself. A simple computer program is required to count the number of arrests posted within 30 days.

MEASURE: Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence

This is the project-type version of the identically worded summary measure #4.

How to Calculate the Measure: This summary measure is most appropriate for AFIS projects designed to enhance criminal investigations, such as the installation of latent workstations.

Whatever offense or incident database is used by the law enforcement agency to meet UCR or NIBRS requirements should be used to calculate this measure. It may be necessary to base pre-post project estimates on samples if the clearance date must be manually retrieved from another source.

MEASURE: Number of warrant arrest made after alias identifications (false self-identification) discovered through AFIS search at booking

This is the project-type version of summary measure #5: "Number of arrests/detentions made possible by the project."

How to Calculate the Measure: For this project type, only warrant arrests made after an AFIS discovered false self-identification should be counted. The purpose of this measure is to capture those cases in which "but for" AFIS, a wanted individual would not have been identified. This measure requires first an identification of that subset of bookings in which there has been a fingerprint-based resolution of a false self-identification by the arrestee, then a determination if a warrant booking occurred on that date or on any subsequent date within the same incarceration period. Therefore, this measure requires a comparison between cases identified in the previous measure to the local jail or detention center database.

Project Performance Measures: Other Examples		
Project Objectives	**Performance Measures**	**Measurement Type**
1. Increase number of arrestees accurately identified before release	Percent of arrestees with fingerprint-based identification available to booking/ detention facility operation prior to release	Output
2. Increase the detection of false self-identifications at booking	Number of false self-identifications detected during booking	Output

Justice Program Goals for Information Technology Addressed by the Project
1. Increase clearance rate by enhancing law enforcement investigative capacity through information technology
2. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users

Automated Victim Notification System (SAVIN)

DESCRIPTION: This project type includes all projects that build a SAVIN or link an agency to an existing SAVIN. A SAVIN is typically designed to notify victims of court events or impending defendant releases in cases in which they were victimized. It may require the victim to register for services. It may notify the registered victim and/or enable the victim to seek information by phone, e-mail, or Internet.

II. BJA Summary Performance Measures for the Project

MEASURE: Number of additional victim notifications, phone queries, and electronic queries by victims made possible by the project.

This is the project-type version of summary measure #6: "Number of additional queries of special high-risk individual databases (such as domestic violence, sex offender, and terrorism databases) made possible by the project."

How to Calculate the Measure: Modern SAVINs can produce reports indicating the number of queries or notifications made. If the project creates a SAVIN capability where none existed before, the measure is simply the total numbers made since the inception of the project. If the project enhances an existing system, the "additional" queries/notifications would be calculated as follows: (average daily queries and notifications since project implementation minus average daily queries and notifications during the 6 months prior to the project) multiplied by number of days since project implementation.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase number of individuals subscribing to automated victim notification system	Number of subscribers enrolled for notifications services	Output
2. Decrease number of victims killed or injured by released offenders	Percent reduction in number of victims killed or injured by released offenders	Outcome

Justice Program Goals for Information Technology Addressed by the Project

1. Strengthen the relationship between criminal justice agencies and the community they serve through increased information sharing with the public
2. Provide services and information, related to specific offenders, to victims and potential victims of crime through information systems
3. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing

Computer-Aided Dispatch (CAD)

DESCRIPTION: This project type includes standalone CAD systems, including those for law enforcement only and those that encompass law enforcement, fire, and EMS in a single system. This project type also includes those that link 911 to CAD systems but not projects that build or enhance 911 systems only.

III. BJA Summary Performance Measures for the Project

MEASURE: Percent decrease in average law enforcement response time to priority calls for service.

This is the project-type version of identically worded summary measure #1.

How to Calculate the Measure: This measure is calculated as percent change in average response time from pre-project to post-project periods. The definition of "priority calls" is left to the agency, either based on existing agency policy or defined for the purposes of the measure if no written policy exists. It is essential that the definition applied be identical for both periods.

Response time is the time elapsed from the initial call for service and the arrival of the first officer on the scene. Priority calls should be defined based on the initial classification of the offense by the dispatcher, rather than after the fact.

Most CAD systems are capable of producing reports on response time to calls, and some can break down these calls by type. If no CAD system existed prior to the project, the average response time estimate can be based on a manual tabulation from dispatcher logs or on a sample of calls that meet priority criteria.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Reduce the number of officer injuries or deaths at dispatched locations (excluding traffic accidents)	Number of officers killed or injured at dispatched locations (excluding traffic accidents)	Output
2. Decrease number of victims killed or injured by released offenders	Percent reduction in number of victims killed or injured by released offenders	Efficiency

Justice Program Goals for Information Technology Addressed by the Project

1. Decrease law enforcement response time to citizen calls for service through the use of information systems to manage law enforcement services
2. Enhance the safety of law enforcement officers by increasing information available to patrol officers and dispatchers
3. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing

COMPSTAT/Crime Mapping

DESCRIPTION: This project type includes computer applications that use mapping and other data presentation strategies to assist a COMPSTAT-type management approach or uses computer crime mapping to drive manpower allocation and policing strategy.

IV. BJA Summary Performance Measures for the Project

MEASURE: Percent decrease in average law enforcement response time to priority calls for service.

This is the project-type version of identically worded summary measure #1.

How to Calculate the Measure: It is expected that both COMPSTAT and crime mapping projects, by providing information to law enforcement managers to maximize the effectiveness of manpower deployment and resource allocation, will allow the managers to ensure that sufficient resources are assigned to areas of high demand and calls of high priority.

This measure is calculated as percent change in average response time from pre-project to post-project periods. The definition of "priority calls" is left to the agency, either based on existing agency policy or defined for the purposes of the measure if no written policy exists. It is essential that the definition applied be identical for both periods.

Response time is the time elapsed from the initial call for service and the arrival of the first officer on the scene. Priority calls should be defined based on the initial classification of the offense by the dispatcher, rather than after the fact.

Most Computer-Aided Dispatch (CAD) systems are capable of producing reports on response time to calls, and some can break down these calls by type. If no CAD systems exist, the average response time estimate can be based on a manual tabulation from dispatcher logs or on a sample of calls that meet priority criteria.

MEASURE: Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence

This is the project-type version of the identically worded summary measure #4.

How to Calculate the Measure: This summary measure is most appropriate for AFIS projects designed to enhance criminal investigations, such as the installation of latent workstations.

Whatever offense or incident database is used by the law enforcement agency to meet UCR or NIBRS requirements should be used to calculate this measure. It may be necessary to base pre-post project estimates on samples if the clearance date must be manually retrieved from another source.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase the ability of law enforcement to provide the public with up-to-date crime information	Is the following crime information available to the public via the departmental/ city web site? (Yes/No) • Periodic (weekly, monthly, quarterly) crime data by type • Maps of locations of crime • Data on number of crimes occurring in each district • Crime comparisons by year	Outcome
2. Increase number of arrests of repeat offenders	Number of offender Part I arrests in which offender is charged with three or more separate felony offenses occurring within 90 days	Outcome
3. Increase citizen access to neighborhood crime pattern information	Number of "visits" to public crime mapping web site	Output

Justice Program Goals for Information Technology Addressed by the Project

1. Increase clearance rate by enhancing law enforcement investigative capacity through information technology
2. Decrease law enforcement response time to citizen calls for service through the use of information systems to manage law enforcement services
3. Strengthen the relationship between criminal justice agencies and the community they serve through increased information sharing with the public
4. Improve law enforcement effectiveness through data-driven management

Court Computer-Based Management System

DESCRIPTION: Court management systems can range from simple docketing systems containing basic case information and limited reporting capabilities to full-fledged paperless systems including features such as public web sites, e-filing, and permanent media archiving. The court system might exchange data electronically with jail booking systems, subpoena tracking systems, prosecutor or public defender systems, service providers, and evidence storage and tracking systems.

Which performance measures are appropriate will depend in part on which of these features a particular project encompasses.

V. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Increase in percent of felony cases reaching disposition within established time standards

This is the project-type version of identically worded summary measure #7.

How to Calculate the Measure: This measure should be expressed as the change (pre-project to post-project) in percent of felony cases reaching disposition under established time standards of all cases reaching disposition during each period. Start time for each case is the date of arrest. Disposition refers to final disposition (e.g., sentencing, not guilty verdict, DA refusal or *nolle prosequi*) not counting appeals. Time standards may be established by state statute-based rules of procedure, local court rules, or statewide rules established by a supervisory court. If no such standard exists, a reasonable standard may be established for purposes of the measure as long as the same standard is used for both pre- and post-project periods.

Since the measure is based on cases ending during each period, some (sometimes most) of the activity of included cases in the post project measurement period will have occurred prior to the period. To mitigate this problem, the post project period should be selected as long after project implementation as possible. (See time period discussion in chapter V.)

MEASURE: Number of additional automated information exchanges both within the court and between criminal justice agencies and the court made possible by the project.

This is the project-type version of summary measure #3: "Number of additional automated criminal justice information exchanges made possible by the project."

How to Calculate the Measure: This measure should be expressed as the number of new automated criminal justice exchanges (transactions best summarized in the SEARCH Justice Information Exchange Model (JIEM) Model) made possible by the project. Included are interagency exchanges and intra-agency exchanges (automated exchanges of information between departments or functions of the court). Intra-agency exchanges are limited to those that replace a document exchange. An exchange may include actual transmission of a packet of information (such as arrest and booking information from a booking agency to a prosecutor) or the posting of information to a database that is later retrieved by another agency or department.

Some of the electronic exchanges counted here replace information sharing through other means and some will represent the sharing of information not previously exchanged. This measure is designed to capture simultaneously both the improvements in efficiency and coordination information technology provides.

MEASURE: Increase in percent of court dispositions which have been posted to the state criminal history repository within 30 days of occurrence

This is the project-type version of summary measure #2: "Increase in percent of events (arrests, charging decisions, and court dispositions) that the responsible agency has posted to the state criminal history repository within 30 days of occurrence."

How to Calculate the Measure: This measure is most appropriate for court projects that enable a court to more rapidly submit case dispositions to the state repository through electronic means. The submission may be a direct transfer of data to the state repository. The submission may be to an intermediary agency (such as a statewide court information system) that subsequently forwards the disposition to the state repository.

The measure is the difference between pre-project and post-project percentages of dispositions posted within 30 days. The percentage for each period should be calculated as follows:

The denominator used to calculate each percentage is the total of dispositions occurring during the period. This total includes all relevant dispositions posted to the repository and all those that occurred but were not posted. (If the project affects only particular types of dispositions, disposition type should be used to filter out postings in the repository not relevant to the project. The number of events not posted can be calculated by determining the difference between the relevant event counts in court records and those events posted to the repository.)

The numerator of the percentage for each period is the number of posted arrests and dispositions that were posted within 30 days. (The occurrence date of the event, not the posting date, should determine in which period it is counted.) The state's criminal history database should include date fields indicating the date each post arrest or disposition was added to the database and the date of the arrest or disposition itself. A simple computer program is required to count the number of arrests and dispositions posted within 30 days.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Decrease the number of forms or reports that must be manually produced, including by spreadsheets and word processors	Number of forms or spreadsheets that must be manually produced, including by spreadsheets and word processors	Output
2. Improve the scheduling and monitoring of courtroom events	Number of scheduling conflicts	Output
3. Increase the number of personnel who use the Court Management System	Average percent of personnel who log activity on a Court Management System module each day	Output
4. Reduce the number of personnel assigned to records input, maintenance, and retrieval duties	Number of personnel full-time equivalents whose primary responsibility involves the production of manual forms and reports, data entry, filing/ archiving, and related records maintenance functions	Efficiency

Justice Program Goals for Information Technology Addressed by the Project

1. Improve linkages among criminal justice and non-criminal justice agencies and organizations through improved information sharing
2. Improve judicial decisions by expanding the scope and analysis of information available
3. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
4. Reduce errors in justice process operations through improved information sharing and management

Criminal Justice Information Sharing

DESCRIPTION: This project type includes a variety of projects aimed at facilitating the exchange among criminal justice agencies in a jurisdiction (i.e., city, county, tribal area, multi-county region, state, multi-state region). It includes all information exchanges (best summarized in the SEARCH JIEM Model) which take place among justice agencies in a local jurisdiction and are related to criminal cases, and integrated queries across multiple county-level agencies (which may include information from other sources as well).

It also excludes the outcomes related to information systems of each agency on that agency's own operations, such as the effect of a CAD system on law enforcement operations or a jail management system on a jail's operations. It excludes certain specialized information exchanges such as warrant information sharing, AFIS-related exchanges, mapping, sharing of intelligence and investigative information (including de-confliction systems), passing of crime lab reports to law enforcement/prosecutors, exchanges with the state repository (unless the repository is used as a post-retrieve station for a local exchange), web access to justice information for the general public, victim notification systems, order of protection registries, and sex offender registries. These are treated as separate project types. This project type also excludes non-criminal justice exchanges by courts related to non-criminal cases.

VI. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of additional automated criminal justice information exchanges made possible by the project

This is the project-type version of identically worded summary measure #3.

How to Calculate the Measure: Data to calculate this measure may come from logs of transmissions sent or received that are maintained on systems for security or other administrative purposes. Characterizing the type of transmission might be accomplished by reviewing a sample of transmissions and estimate a percentage that fall into the measure's "criminal justice information" criterion.

Counting which exchanges are "additional" is straightforward if the project has provided entirely new automated transactions. If it has enhanced the ability to exchange information that was already exchanged electronically pre-project, an estimate of a "base" count can be made from average pre-project daily transmission counts and this base count can be subtracted from the actual post-project transmission count daily average. The number of additional exchanges is this daily rate difference multiplied by the number of post-project days.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Reduce the percent both of documents and document types that are exchanged non-electronically among criminal justice agencies in the jurisdiction	Percent of documents and document types that are exchanged non-electronically (end-to-end) among criminal justice agencies in the jurisdiction	Output
2. Reduce the percent of inter-agency information exchange events where the receiving agency must reenter or rerecord information already entered or recorded by the sending agency	Percent of interagency information exchange events where the receiving agency must reenter or rerecord information already entered or recorded by the sending agency	Output
3. Reduce the number of criminal justice agency personnel responsible for the entry, logging, recording, storing, filing, or retrieval of case-related records	Reduce the number of criminal justice agency personnel responsible for the entry, logging, recording, storing, filing, or retrieval of case-related records	Efficiency
4. Reduce the number of inter-agency phone requests for information	The number of interagency phone requests for information	Efficiency

Justice Program Goals for Information Technology Addressed by the Project

1. Enhance the safety of law enforcement officers by increasing information available to patrol officers and dispatchers
2. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users
3. Improve the ability of prosecutors to secure convictions through more effective case management and information exchange with other justice entities
4. Improve input to judicial decisions by expanding the scope and analysis of information available
5. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
6. Reduce errors in justice process operations through improved information sharing and management
7. Reduce offender recidivism and improve community supervision compliance through increased information availability, communication, and risk assessment
8. Intervene in criminal careers by providing information to focus criminal justice efforts on career offenders

Domestic Violence, Order of Protection Database

DESCRIPTION: This project type includes those projects that seek to create or enhance a comprehensive database and user access to orders of protection for victims of domestic violence or threat of violence.

VII. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of additional queries of Order of Protection database made possible by the project

This is the project-type version of summary measure #6: "Number of additional queries of special high-risk individual databases (such as domestic violence, sex offender, and terrorism databases) made possible by the project."

How to Calculate the Measure: Data to calculate this measure may come from logs of queries that are maintained on systems for security or other administrative purposes.

Counting which queries are "additional" is straightforward if the project has provided an entirely new database. If the project provided access to a new class of users, access logs can be used to separate queries by those users. If the project enhances an existing system, the "additional" queries would be calculated as follows: (average daily queries since project implementation minus average daily queries during the 6 months prior to the project) multiplied by number of days since project implementation.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase percentage of protective orders included in database	Percentage of courts submitting protective orders to system	Output
2. Decrease the number of expired or revoked protection orders included in database as still active	Number of expired or revoked protection orders included in database as still active based on periodic audit	Output
3. Increase the percentage of agencies statutorily required to access order of protection information who have access to database	Percentage of agencies statutorily required to access order of protection information who have access to database	Output
4. Increase the number of queries to order of protection database by: • Law enforcement agencies • Other justice agencies • NICS • Non-justice agencies	Number of queries to order of protection database by: • Law enforcement agencies • Other justice agencies • NICS • Non-justice agencies	Output
5. Reduction in number of persons killed in domestic violence incidents by individuals restrained from them by orders of protection.	Reduction in number of persons killed in domestic violence incidents by individuals restrained from them by orders of protection	Output

Justice Program Goals for Information Technology Addressed by the Project

1. Reduce domestic/family violence through improved information sharing among justice and social service agencies
2. Enhance the safety of law enforcement officers by increasing information available to patrol officers and dispatchers
3. Reduce gun violence in communities through the use of information systems and technologies to restrict access to weapons by unauthorized individuals

Drug Court Computer-Based Management System

DESCRIPTION: Drug court management systems can be standalone applications or a component of a comprehensive court management system. Court management systems can range from simple docketing systems containing basic case information and limited reporting capabilities to full-fledged paperless systems including features such as public web sites, e-filing, and permanent media archiving. The court system might exchange data electronically with jail booking systems, subpoena tracking systems, prosecutor or public defender systems, service providers, and evidence storage and tracking systems. Drug court systems typically add to these features the development and tracking of treatment plans—including offender contracts and other specialized documents—and sometimes the ability to exchange information, such as progress reports, electronically with treatment providers.

Which performance measures are appropriate will depend in part on which of these features a particular project encompasses.

VIII. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of additional automated information exchanges both within the drug court and between criminal justice agencies and the drug court made possible by the project.

This is the project-type version of summary measure #3: "Number of additional automated criminal justice information exchanges made possible by the project."

How to Calculate the Measure: This measure should be expressed as the number of new automated criminal justice exchanges (transactions) made possible by the project. Included are interagency exchanges and intra-agency exchanges (automated exchanges of information between departments or functions of the drug court or between the drug court and other court sections or departments). Intra-agency exchanges are limited to those that replace a document exchange. An exchange may include actual transmission of a packet of information (such as arrest and booking information from a booking agency to a prosecutor) or the posting of information to a database that is later retrieved by another agency or department. In the case of drug court, exchanges with non-criminal justice treatment providers are included.

MEASURE: Increase in percent of felony cases reaching disposition within established time standards

This is the project-type version of identically worded summary measure #7.

How to Calculate the Measure: This measure should be expressed as the change (pre-project to post-project) in percent of felony cases reaching disposition under established time case is the date of arrest. Disposition refers to final disposition not counting appeals. For drug court, final disposition should be termination of supervision by the court rather than conviction or sentencing. Time standards may be established by local court rules or statewide rules established by a supervisory court. If no such standard exists, a reasonable standard for drug court cases may be established for purposes of the measure as long as the same standard is used for both pre- and post-project periods.

Since the measure is based on cases ending during each period, some (sometimes most) of the activity of included cases in the post-project measurement period will have occurred prior to the period. To mitigate this problem, the post-project period should be selected as long after project implementation as possible. (See time period discussion in chapter V.)

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase completeness of information available to drug court judges	Percent of the following information available to drug court judges through automated systems: • Criminal history • Court case history • Medical history • Drug treatment history • Mental health history • Probation/parole supervision history	Output
2. Increase scope of information available to drug court judges about prior treatment outcomes	Number of treatment provider entities with information available through drug court management system	Output
3. Reduce the number of clerical personnel needed for drug court operations	(Average days of clerical personnel)/(number of clients in program)	Efficiency
4. Increase compliance rates among drug court clients	Number/percent of clients successfully completing drug court program	Outcome
5. Reduce drug court client re-arrest following graduation from program	Percent of drug court clients who are arrested for any felony offense in 12 months following release from the program	Outcome

Justice Program Goals for Information Technology Addressed by the Project

1. Improve coordination between criminal justice and non-criminal justice agencies and organizations through improved information sharing
2. Intervene in criminal careers by providing information to design and manage rehabilitation efforts
3. Improve input to judicial decisions by expanding the scope and analysis of information available
4. Reduce offender recidivism and improve community supervision compliance through increased information availability, communication, and risk assessment
5. Reduce errors in justice process operations through improved information sharing and management

Electronic Criminal History Repository

DESCRIPTION: This project type includes a variety of projects aimed at improvement of the state criminal history repository. These include automating submission of records from booking agencies or adding dispositions to arrest records by prosecutors, courts, and corrections. They also include projects to increase the availability and usability of rap sheets and other reports developed from the repository.

IX. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Increase in percent of events (arrests, charging decisions, and court dispositions), which the responsible agency has posted to the state criminal history repository within 30 days of occurrence.

This is the project-type version of identically worded summary measure #2.

How to Calculate the Measure: The measure is the difference between pre-project and post-project percentages of arrests and dispositions posted within 30 days. The percentage for each period should be calculated as follows:

The denominator of each percentage is the total of all arrests and dispositions occurring during the period. This total includes all relevant arrest and dispositions posted to the repository and all those that occurred but were not posted. (If the project affects only postings from a particular set of agencies or a particular type of arrests and dispositions, agency ORI or disposition type should be used to filter out postings in the repository not relevant to the project. The number of events not posted can be calculated by determining the difference between the relevant event counts in agency records and those events posted to the repository.)

The numerator of the percentage for each period is the number of posted arrests and dispositions that were posted within 30 days. (The occurrence date of the event, not the posting date, should determine in which period it is counted.) The state's criminal history database should include date fields indicating the date each post-arrest or disposition was added to the database and the date of the arrest or disposition itself. A simple computer program is required to count the number of arrests and dispositions posted within 30 days. If the project improves the operation of the repository in such a way as to affect the posting capabilities of many agencies, it may be necessary to estimate the number of not submitted events from agency surveys.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Reduce time from event to state repository availability for: • Prosecutor screening decision • Court disposition • Department of Correction (DOC) in-processing • Probation in-processing	Average time to state repository posting from: • Prosecutor screening decision • Court final disposition (dismissal, verdict, sentence) • Completion of DOC intake process • Completion of probation intake process	Efficiency
2. Increase the number of background checks for sensitive employment positions that result in identification of convicted felons	Number of background checks for sensitive employment positions that result in identification of convicted felons	Outcome

Justice Program Goals for Information Technology Addressed by the Project

1. Increase clearance rate by enhancing law enforcement investigative capacity through information technology
2. Improve input to judicial decisions by expanding the scope and analysis of information available
3. Reduce offender recidivism and improve community supervision compliance through increased information availability, communication, and risk assessment
4. Intervene in criminal careers by providing information to focus criminal justice efforts on career offenders
5. Enhance the ability to make appropriate hiring decisions for sensitive positions through increased access to complete and accurate criminal history and status

Global JXDM Implementation

DESCRIPTION: This project type includes any implementation of exchange and data standards of the U.S. Department of Justice Global JXDM, including implementations under the National Information Exchange Model (NIEM).[11] It is aimed at facilitating the exchange among criminal justice agencies in a project coverage area jurisdiction (the city, county, tribal area, multi-county region, state, multi-state region) that the

11. NIEM is a Department of Justice and Department of Homeland Security partnership for development of the enhanced information sharing model based on Global JXDM. Information on NIEM is available at www.niem.gov and on the Global JXDM at http://it.ojp.gov/jxdm/

project is intended to affect) of case management information relating to criminal cases using the Global JXDM standard. This project type excludes exchanges by courts related to non-criminal cases. It does include all information exchanges (best summarized in the SEARCH JIEM) which take place among justice agencies in a local jurisdiction and are related to criminal cases, and integr ated queries across multiple county-level agencies (which may include information from other sources as well).

Since the purpose of development and dissemination of the Global JXDM is to facilitate information exchange among public safety and justice agencies, performance measures will often parallel those for information sharing projects in general.

X. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Increase in percent of events (arrests, charging decisions, and court dispositions) that the responsible agency has posted to the state criminal history repository within 30 days of occurrence

This is the project-type version of identically worded summary measure #2.

How to Calculate the Measure: This measure is most appropriate for projects that use the Global JXDM to enable an agency to more rapidly submit arrests or case dispositions to the state repository through electronic means. The submission may be a direct transfer of data to the state repository. The submission may be to an intermediary agency (such as a statewide court information system) that subsequently forwards the disposition to the state repository.

The measure is the difference between pre-project and post-project percentages of events posted within 30 days. The percentage for each period should be calculated as follows:

The denominator of each percentage is the total of events occurring during the period. This total includes all relevant events posted to the repository and all those that occurred but were not posted. (If the project affects only particular types of events, event type should be used to filter out postings in the repository not relevant to the project. The number of events not posted can be calculated by determining the difference between the relevant event counts in agency records and those events posted to the repository.)

The numerator of the percentage for each period is the number of posted arrests or dispositions that were posted within 30 days. (The occurrence date of the event, not the posting date, should determine in which period it is counted.) The state's criminal history database should include date fields indicating the date each post-arrest or disposition was added to the database and the date of the arrest or disposition itself. A simple computer program is required to count the number of arrests and dispositions posted within 30 days.

MEASURE: Number of additional automated information exchanges both within and between criminal justice agencies made possible by the project.

This is the project-type version of identically worded summary measure #3.

How to Calculate the Measure: Data to calculate this measure may come from logs of transmissions sent or received that are maintained on systems for security or other administrative purposes. Characterizing the type of transmission might be accomplished by reviewing a sample of transmissions and estimating a percentage that falls into the measure's "criminal justice information" criterion.

Counting which exchanges are "additional" is straightforward if the project has provided entirely new automated transactions. If it has enhanced the ability to exchange information that was already exchanged electronically pre-project, an estimate of a "base" count can be made from average pre-project daily transmission counts and this base count can be subtracted from actual post-project transmission counts.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Reduce the percent both of documents and document types that are exchanged non-electronically (end-to-end) among criminal justice agencies in the project coverage area	Percent of documents and document types that are exchanged non-electronically (end-to-end) among criminal justice agencies in the project coverage area	Output
2. Reduce the percent of inter-agency information exchange events where the receiving agency must reenter or rerecord information already entered or recorded by the sending agency	Percent of interagency information exchange events where the receiving agency must reenter or rerecord information already entered or recorded by the sending agency	Output
3. Reduce the number of criminal justice agency personnel responsible for the entry, logging, recording, storing, filing, or retrieval of case-related records	The number of criminal justice agency full time equivalent personnel responsible for the entry, logging, recording, storing, filing, or retrieval of case-related records	Efficiency

Project Objectives	Performance Measures	Measurement Type
4. Reduce the average time from arrest to final case disposition for felony arrests	For felony arrests, the average time from arrest to refusal, for cases refused; arrest to arraignment, for cases arraigned; arraignment to plea acceptance, for cases pled; arraignment to trial for cases tried; plea or trial verdict to sentence, for defendants found or pled guilty	Outcome
5. Reduce the number of erroneous jail releases due to problems in transfer, interpretation, or error in court paperwork	The number of erroneous jail releases due to problems in transfer, interpretation, or error in court paperwork	Outcome
6. Reduce the number of arrested probationers released prior to notification of the probation officer/ department	Number of arrested probationers released prior to notification of the probation officer/ department	Outcome
7. Reduce the number/percent of interagency document exchanges in the jurisdiction not using the Global JXDM	Number/percent of interagency document exchanges in the jurisdiction not using the Global JXDM	Output
8. Increase the number of total document exchanges (both electronic and non-electronic) among criminal justice agencies in the project coverage area by adding new exchanges through use of the Global JXDM	The number of new document exchanges among criminal justice agencies in the project coverage area using the Global JXDM	Output

Justice Program Goals for Information Technology Addressed by the Project

1. Enhance the safety of law enforcement officers by increasing information available to patrol officers and dispatchers
2. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users
3. Improve the ability of prosecutors to secure convictions through more effective case management and information exchange with other justice entities
4. Improve input to judicial decisions by expanding the scope and analysis of information available
5. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
6. Reduce errors in justice process operations through improved information sharing and management
7. Reduce offender recidivism and improve community supervision compliance through increased information availability, communication, and risk assessment

Handgun NICS Database

DESCRIPTION: This project type includes any project designed to build, acquire, or enhance the ability to perform Brady background checks for handgun purchases.

XI. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of additional handgun NICS checks made possible by the project

This is the project-type version of summary measure #6: "Number of additional queries of special high-risk individual databases (such as domestic violence, sex offender, and terrorism databases) made possible by the project."

How to Calculate the Measure: Data to calculate this measure may come from logs of queries that are maintained on systems for security or other administrative purposes.

Counting which queries are "additional" is straightforward if the project has provided an entirely new database. If the project provided access to a new class of users, access logs can be used to separate queries by those users. If the project has enhanced generally the ability to query information that was already available electronically pre-project, an estimate of a "base" count can be made from average pre-project daily query counts, and this base count can be subtracted from actual post-project query counts.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase the number of unauthorized individuals who are denied approval to purchase guns	Number of gun sales denied through use of instant check system	Outcome
2. Reduce the time required to conduct a gun purchase background check	Average time required to conduct a gun purchase background check	Efficiency
3. Increase the revenue from fees levied on gun dealers to run checks on prospective buyers	Percentage of gun purchase checks for which fee money is collected	Efficiency
4. Reduce the number/amount of time gun check status remains delayed or unresolved	Number of gun checks that are delayed/ unresolved	Efficiency
5. Increase the number of felony and non-felony warrants identified during background check process and resulting in arrest by local law enforcement	Number of warrant arrests by local law enforcement resulting from notification by gun check personnel	Outcome

Justice Program Goals for Information Technology Addressed by the Project

1. Reduce gun violence in communities through the use of information systems and technologies to restrict unlawful access to weapons by unauthorized individuals
2. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users
3. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing

Institutional Correctional Management System

DESCRIPTION: This project type includes information systems designed to manage jails and correctional institutions, including aspects of correctional management related to certain forms of community release normally under the control of institutional managers, such as furlough and work release. Probation and parole management—risk assessment for judges and parole boards and monitoring/supervision—are treated as separate project types, though a single information system may serve both functions.

Correctional management systems (CMS) may include any of the following features:

- Admissions and release processing.
- Facility management/inmate tracking (record of all housing locations and inmate tracking and housing assignment, including inmate counts).
- Event scheduling, tracking and processing for critical activities such as court appearances, medical visits, and disciplinary hearings.
- Court and sentencing records with release date calculation and court event scheduling.
- Special alert flags for inmate dangerousness, medical and mental conditions, suicide risk, and dietary restrictions and gang membership.
- Classification system that assembles information for decision by a classification unit or officer or automatically determines level based on objective criteria.
- Visitor control.
- Inmate money accounting and billing.
- Inmate property management.
- Commissary accounting.
- Incident disciplinary system.
- Inmate grievance processing.
- Inmate programming (e.g., diagnostic/case management data, scheduling, attendance, test/results tracking for rehabilitation programs).

Which performance measures are appropriate will depend in part on which of these features a particular project encompasses.

XII. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of additional automated information exchanges both between departments or functions of the correctional agency and between the correctional agency and other criminal justice agencies that are made possible by the project

This is the project-type version of summary measure #1: "Number of additional automated criminal justice information exchanges made possible by the project."

How to Calculate the Measure: Data to calculate this measure may be derived from logs of transmissions sent or received that are maintained on systems for security or other administrative purposes. Alternately, if an exchange is entirely automated (such as transfer of an institutional record to a parole agency) it may be possible to capture the measure through routine agency reports of cases sent or received.

Automated exchanges between the CMS and other justice agencies (e.g., law enforcement, other correctional agencies, probation and parole agencies) should be included (such as those exchanges defined under JIEM Reference Model 1.0.1 which involve corrections as a sending or receiving agency). Many of these documents will have replaced manual forms and reports formally transferred among agencies.

MEASURE: Increase in percent of felony cases with defendants in custody reaching disposition within established time standards

This is the project-type version of summary measure #7: "Increase in percent of felony cases reaching disposition within established time standards."

How to Calculate the Measure: This measure will be relevant to the project if features of the new system will reduce case continuances due to problems in transporting inmates to court appearances, and therefore will apply primarily to jails.

This measure should be expressed as the change (pre-project to post-project) in percent of felony cases reaching disposition under established time standards of all cases reaching disposition during each period where defendants were in custody for the duration of the case. Start time should be considered date of arrest. Disposition refers to final disposition (e.g., sentencing, not guilty verdict, DA refusal or nolle prosequi) not counting appeals. Standards may be established by state statute-based rules of procedure, local court rules, or statewide rules established by a supervisory court. If no such standard exists, a reasonable standard may be established for purposes of the measure as long as the same standard is used for both pre- and post-project periods.

Because the measure is based on cases ending during each period, some (sometimes most) of the activity of included cases in the post-project measurement period will have occurred prior to the period. To mitigate this problem, the post-project period should be selected as long after project implementation as possible. (See time period discussion in chapter V.)

MEASURE: Difference (pre-project to post-project) in number of warrant arrests made during admissions or release due to the project

This is the project-type version of summary measure #5: "Number of arrests/detentions made possible by the project."

How to Calculate the Measure: This measure only is valid if the project has enhanced the ability to perform such warrant and detainer checks during the admissions or release process. The post-project period volume of warrant/detainer arrests minus a pre-project baseline estimate gives the difference in number of arrests. Note: "arrest" here refers to an entry in the record that prevents the release of the individual until the warrant/detainer is satisfied. Note also that the project or the correctional entity may focus only on certain types of warrants or offenders. In that case, care must be taken to compare "apples to apples" or like items in the pre- and post-project periods.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Reduce time and manpower spent on gathering and recording inmate personal, case, and program information	Number of personnel full-time equivalents whose primary responsibility involves the production of manual forms and reports, data entry, filing/archiving, and related record maintenance functions, both collectively and specifically for: • Admissions processing (both initial and after reassignment to new institution) • Release planning and processing • Classification • Treatment planning • Processing of new sentence	Efficiency
2. Decrease the number of forms or reports that must be manually produced	Number of forms or reports that must be manually produced	Efficiency
3. Increase the percent of on-duty correctional personnel who access the case management system	Average percent of on-duty personnel who log activity on an CMS module each day	Output
4. Reduce number of correctional officer injuries or deaths from inmate assaults	Number of correctional officers injured or killed by inmate assaults	Outcome

5.	Reduce number of inmates killed or injured from assaults by other inmates or suicide attempts	Number of inmates killed or injured from assaults by other inmates or in suicide attempts	Outcome
6.	Increase rate of profit from commissary operations	Rate of profit from commissary operations	Efficiency
7.	Reduce the rate of dropout and removal of inmates from rehabilitation programs	Average removal + dropout rate of inmates entering rehabilitation programs	Outcome

Justice Program Goals for Information Technology Addressed by the Project

1. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
2. Reduce errors in justice process operations through improved information sharing and management
3. Protect the safety and security of inmates and correctional personnel by improving the information available to officers and staff
4. Reduce offender recidivism and improve community supervision compliance through increased information availability, communication, and risk assessment
5. Intervene in criminal careers by providing information to design and manage rehabilitation efforts

Investigative Management and Analysis System

DESCRIPTION: This project type includes any computer application that assists investigators in the management and/or analysis of case or intelligence information. It includes de-confliction systems and systems for the mining and analysis of UCR/NIBRS data.

XIII. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Increase in percentage of UCR Part I crimes (excluding larceny theft) cleared within one year of occurrence

This is the project-type version of identically worded summary measure #4.

How to Calculate the Measure: Whatever offense or incident database is used by the law enforcement agency to meet UCR or NIBRS requirements should be used to calculate this measure. It may be necessary to base pre-/post-project estimates on samples if clearance date must be manually retrieved from another source.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase scope of information available to investigators conducting investigations	Number of types of information available to investigators	Output
2. Decrease time required to complete average investigation	Average number of days from incident to arrest in cases assigned to an investigator where an arrest was made	Outcome
3. Reduce the number of non-sworn (clerical time) required for investigations	(Average number of days of non-sworn personnel assigned to investigative divisions)/ (number of investigations initiated)	Efficiency
4. Increase the number of felony convictions in cases assigned to investigative unit	Number/percent of felony convictions in cases assigned to investigative unit	Outcome
5. Increase the number of criminal investigations using crime data analysis from UCR/Incident-Based Reporting (IBR) data	Number of criminal investigations using crime data analysis from UCR/IBR data	Output

Justice Program Goals for Information Technology Addressed by the Project

1. Increase clearance rate by enhancing law enforcement investigative capacity through information technology
2. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users
3. Improve law enforcement effectiveness through data-driven management
4. Reduce errors in justice process operations through improved information sharing and management

Laboratory Information Management System (LIMS)

DESCRIPTION: This project type includes both the implementation and improvement of laboratory information management systems for crime labs and projects designed to facilitate the transfer of laboratory results to law enforcement and prosecutors. Therefore, not all objectives and measures may be appropriate for all projects. Specialized DNA labs and repositories and specialized ballistics systems, such as Integrated Ballistic Identification System (IBIS)/National Integrated Ballistics Information Network (NIBIN), are excluded from this category.

XIV. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Increase in percent of felony cases where a crime lab report is requested that reached disposition within established time standards

This is the project-type version of identically worded summary measure #7.

How to Calculate the Measure: This measure should be expressed as the change (pre-project to post-project) in percent of felony cases reaching disposition under established time standards of all cases reaching disposition during each period. Start time for each case is the date of arrest. Disposition refers to final disposition (sentencing, not guilty verdict, DA refusal or nolle prosequi) not counting appeals. Time standards may be established by state statute-based rules of procedure, local court rules, or statewide rules established by a supervisory court. If no such standard exists, a reasonable standard may be established for purposes of the measure as long as the same standard is used for both pre- and post-project periods.

Since the measure is based on cases ending during each period, some (sometimes most) of the activity of included cases in the post-project measurement period will have occurred prior to the period. To mitigate this problem, the post-project period should be selected as long after project implementation as possible. (See time period discussion in chapter V.)

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Reduce the average time from initial submission of evidence to availability of complete laboratory report to law enforcement/ prosecutor	Average time from initial submission of evidence to availability of complete laboratory report to law enforcement/prosecutor	Efficiency
2. Reduce the number of cases where chain of custody breaches occur	Number of cases where chain of custody breaches are recorded	Output
3. Reduce the number of final reports requiring revision because they are incomplete or inaccurate	Number of final reports requiring revision	Efficiency
4. Reduce the average time from incident to arrest in cases requiring a crime lab report	Average time from incident to arrest in cases requiring a crime lab report	Efficiency

Justice Program Goals for Information Technology Addressed by the Project

1. Increase clearance rate by enhancing law enforcement investigative capacity through information technology
2. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users
3. Improve the ability of prosecutors to secure convictions through more effective case management and information exchange with other justice entities
4. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
5. Reduce errors in justice process operations through improved information sharing and management

Law Enforcement Case/Records Management System

DESCRIPTION: Records Management Systems (RMS) are assumed to include records related to incidents, victims, subjects, arrests, property and evidence, citations and vehicles, and automated UCR/NIBRS reporting. Project performance measures should be selected on the basis of the functions the computer application provides. Many modern law enforcement RMS also include mapping, COMPSTAT, warrant repository, investigative management, and intelligence functions; it may include CAD data or incorporate full CAD functionality. Many of these functions have been treated as separate project types, but some of the measures for those types may be appropriate if the RMS includes those functions.

XV. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Increase in percent of felony cases reaching disposition within established time standards

This is the project-type version of identically worded summary measure #3.

How to Calculate the Measure: This measure should be expressed as the change (pre-project to post-project) in percent of felony cases reaching disposition under established time standards of all cases reaching disposition during each period. Start time for each case is the date of arrest. Disposition refers to final disposition (sentencing, not guilty verdict, DA refusal or nolle prosequi) not counting appeals. Time standards may be established by state statute-based rules of procedure, local court rules, or statewide rules established by a supervisory court. If no such standard exists, a reasonable standard may be established for purposes of the measure as long as the same standard is used for both pre- and post-project periods.

Since the measure is based on cases ending during each period, some (sometimes most) of the activity of included cases in the post project measurement period will have occurred prior to the period. To mitigate this problem, the post project period should be selected as long after project implementation as possible. (See time period discussion in chapter V.)

MEASURE: Number of additional automated information exchanges both within the law enforcement agency and between the agency and other justice or regulatory agencies that are made possible by the project

This is the project-type version of summary measure #7: "Number of additional automated criminal justice information exchanges made possible by the project."

How to Calculate the Measure: This measure should be expressed as the number of new automated criminal justice exchanges (including those transactions described in the SEARCH JIEM Model) made possible by the project. Included are interagency exchanges and intra-agency exchanges (automated exchanges of information between departments or functions of the law enforcement agency). Intra-agency exchanges are limited to those that replace a document exchange. An exchange may include actual transmission of a packet of information (such as a case report to a prosecutor) or the posting of information to a database that is later retrieved by another agency or department.

Some of the electronic exchanges counted here replace information sharing through other means and some will represent the sharing of information not previously exchanged. This measure is designed to capture simultaneously both the improvements in efficiency and coordination information technology provides. Data to calculate this measure may come from logs of transmissions sent or received that are maintained on systems for security or other administrative purposes. Characterizing the type of transmission might be accomplished by reviewing a sample of transmissions and estimating a percentage that falls into the measure's "criminal justice information" criterion.

Counting which exchanges are "additional" is straightforward if the project has provided entirely new automated transactions. If it has enhanced the ability to exchange information that was already exchanged electronically pre-project, an estimate of a "base" count can be made from average pre-project daily transmission counts, and this base count can be subtracted from the actual post-project transmission count daily average. The number of additional exchanges is this daily rate difference multiplied by the number of post-project days.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase the percent of all incident-related entities in the RMS database: • Incidents • Subjects • Incident-related persons • Arrests • Property and evidence • Citations • Vehicles • Warrants • Investigations	Percent of all incident related entities in the RMS database: • Incidents • Subjects • Incident-related persons • Arrests • Property and evidence • Citations • Vehicles • Warrants • Investigations	Output
2. Decrease the number of forms or reports that must be manually produced, including by word processors and spreadsheets	Number of forms or reports that must be manually produced, including by word processors and spreadsheets	Efficiency
3. Increase the percent of personnel who access the RMS each day on duty	Average percent of on-duty personnel who log activity on an RMS module each day	Output
4. Reduce the number of personnel assigned to records input, maintenance, and retrieval duties	Number of personnel full-time equivalents (FTEs) whose primary responsibility involves the production of manual forms and reports, data entry, filing/archiving, and related record maintenance functions	Efficiency
5. Reduce number of officer injuries or deaths at dispatched locations (excluding traffic accidents)	Number of officers injured or killed at dispatched locations (excluding traffic accidents)	Outcome
6. Decrease time from reported incident to clearance in cases involving investigators	Average time from reported incident to clearance by arrest for cases where an investigator has been assigned	Outcome
7. Reduce time spent in production and transmission of UCR/IBR reports	Estimated number of FTEs spent in production and transmission of UCR/IBR reports	Efficiency

Justice Program Goals for Information Technology Addressed by the Project

1. Increase clearance rate by enhancing law enforcement investigative capacity through information technology
2. Enhance the safety of law enforcement officers by increasing information available to patrol officers and dispatchers
3. Strengthen the relationship between criminal justice agencies and the community they serve through increased information sharing with the public
4. Improve law enforcement effectiveness through data-driven management
5. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing

Probation/Parole Computer-Based Management System

DESCRIPTION: Probation/parole management systems might range from simple case tracking systems, which maintain information on officer assignment, basic case information, and supervisee contacts, to full-fledged paperless systems, including features such as risk assessment, form-based report generation and archiving, and court date and appointment scheduling. The system may be linked to a variety of automated probationer/parolee reporting interfaces, such as telephone, kiosk, and Internet, and may exchange information electronically with courts, law enforcement, and institutional corrections.

Which performance measures are appropriate will depend in part on which of these features a particular project encompasses.

XVI. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of additional automated information exchanges both within the probation/parole agency and between criminal justice agencies and the agency

This is the project-type version of summary measure #3: "Number of additional automated criminal justice information exchanges made possible by the project."

How to Calculate the Measure: This measure should be expressed as the number of new automated criminal justice exchanges (including those transactions described in the SEARCH JIEM Model) made possible by the project. Included are interagency exchanges and intra-agency exchanges (automated exchanges of information between departments or functions of the probation/parole agency). Intra-agency exchanges are limited to those that replace a document exchange. An exchange may include actual transmission of a packet of information (such as a case report to a court) or the posting of information to a database that is later retrieved by another agency or department.

Some of the electronic exchanges counted here replace information sharing through other means and some will represent the sharing of information not previously exchanged. This measure is designed to capture simultaneously both the improvements in efficiency and coordination information technology provides. Data to calculate this measure may come from logs of transmissions sent or received that are maintained on systems for security or other administrative purposes. Characterizing the type of transmission might be accomplished by reviewing a sample of transmissions and estimating a percentage that falls into the measure's "criminal justice information" criterion.

Counting which exchanges are "additional" is straightforward if the project has provided entirely new automated transactions. If it has enhanced the ability to exchange information that was already exchanged electronically pre-project, an estimate of a "base" count can be made from average pre-project daily transmission counts, and this base count can be subtracted from the actual post-project transmission count daily average. The number of additional exchanges is this daily rate difference multiplied by the number of post-project days.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Reduce time and manpower spent on gathering and recording of case processing information	Number of personnel full-time equivalents whose primary responsibility involves the production of manual forms and reports, data entry, filing/archiving, and related records maintenance functions, both collectively and specifically for: • Case initiation • Scheduling and planning • Monitoring and compliance • Document generation • Case closure	Efficiency
2. Decrease the number of forms or reports than must be manually produced	Number of forms or reports that must be manually produced, including by word processor or spreadsheet	Efficiency
3. Increase the percent of probation and parole personnel who access the management system each day	Average percent of on-duty personnel who log activity on CMS each day	Output
4. Increase the amount of information that is electronically transferred to/from courts, other justice and non-justice agencies	Number of electronic transfers of: • Pretrial sentence • Violation of probation notices • Warrants • Sentence modification • Fees/restitutions • Work program, community service requirements • Drug tests	Output

Justice Program Goals for Information Technology Addressed by the Project

1. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
2. Reduce errors in justice process operations through improved information sharing and management
3. Reduce offender recidivism and improve community supervision compliance through increased information availability, communication, and risk assessment
4. Intervene in criminal careers by providing information to design and manage rehabilitation efforts

Prosecutor Computer-Based Management System

DESCRIPTION: Prosecution management systems can range from simple scheduling and case assignment systems containing basic case information and limited reporting capabilities to full-fledged paperless systems that manage evidence, depositions, witness tracking, and legal research. The system might exchange data electronically with jail booking systems, subpoena tracking systems, court systems, diversion program service providers, graphics/presentation applications, and evidence storage and tracking systems.

Which performance measures are appropriate will depend in part on which of these features a particular project encompasses.

XVII. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Increase in percent of felony cases reaching disposition within established time standards

This is the project-type version of identically worded summary measure #7.

How to Calculate the Measure: This measure should be expressed as the change (pre-project to post-project) in percent of felony cases reaching disposition under established time standards of all cases reaching disposition during each period. Start time for each case is the date of arrest. Disposition refers to final disposition (sentencing, not guilty verdict, DA refusal or nolle prosequi) not counting appeals. Time standards may be established by state statute-based rules of procedure, local court rules, or state-wide rules established by a supervisory court. If no such standard exists, a reasonable standard may be established for purposes of the measure as long as the same standard is used for both pre- and post-project periods.

Since the measure is based on cases ending during each period, some (sometimes most) of the activity of included cases in the post-project measurement period will have occurred prior to the period. To mitigate this problem, the post-project period should be selected as long after project implementation as possible. (See time period discussion in chapter V.)

MEASURE: Number of additional automated information exchanges both within the prosecutor's office and between criminal justice agencies and the office made possible by the project

This is the project-type version of summary measure #3: "Number of additional automated criminal justice information exchanges made possible by the project."

How to Calculate the Measure: This measure should be expressed as the number of new automated criminal justice exchanges (transactions best summarized in the SEARCH JIEM Model) made possible by the project. Included are interagency exchanges and intra-agency exchanges (automated exchanges of information between departments or functions of the prosecutor). Intra-agency exchanges are limited to those that replace a document exchange. An exchange may include actual transmission of a packet of information (such as arrest and booking information from a booking agency to a prosecutor) or the posting of information to a database that is later retrieved by another agency or department.

Some of the electronic exchanges counted here replace information sharing through other means and some will represent the sharing of information not previously exchanged. This measure is designed to capture simultaneously both the improvements in efficiency and coordination information technology provides.

MEASURE: Increase in percent of prosecutor charging decisions that have been posted to the state criminal history repository within 30 days of occurrence

This is the project-type version of summary measure #2: "Increase in percent of events (arrests, charging decisions, and court dispositions) that the responsible agency has posted to the state criminal history repository within 30 days of occurrence."

How to Calculate the Measure: This measure is most appropriate for prosecutor projects that enable a DA to more rapidly submit charging dispositions to the state repository through electronic means. The submission may be a direct transfer of data to the state repository. The submission may be to an intermediary agency (such as a statewide prosecutor information system) that subsequently forwards the disposition to the state repository.

The measure is the difference between pre-project and post-project percentages of dispositions posted within 30 days. The percentage for each period should be calculated as follows:

The denominator used to calculate each percentage is the total of dispositions occurring during the period. This total includes all relevant dispositions posted to the repository and all those that occurred but were not posted. (If the project affects only particular types of dispositions, disposition type should be used to filter out postings in the repository not relevant to the project. The number of events not posted can be calculated by determining the difference between the relevant event counts in court records and those events posted to the repository.)

The numerator of the percentage for each period is the number of posted arrests and dispositions that were posted within 30 days. (The occurrence date of the event, not the posting date, should determine in which period it is counted.) The state's criminal history database should include date fields indicating the date each post-arrest or disposition was added to the database and the date of the arrest or disposition itself. A simple computer program is required to count the number of arrests and dispositions posted within 30 days.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase the number of personnel who access the prosecution management system (PMS) each day	Average percent of personnel who log activity on a PMS module each day	Output
2. Decrease the number of forms that must be manually produced, including by word processor or spreadsheet	Number of forms or reports that must be manually produced, including by word processor or spreadsheet	Output
3. Increase the percent of all case-related entities in the PMS database: • Jail bookings • General case information • Crime reports • Charge information • Event scheduling • Subpoenas • Warrants • Victims • Witnesses • Dispositions	Percent of all case related entities in the PMS: • Jail bookings • General case information • Crime reports • Charge information • Event schedules • Subpoenas • Warrants • Victims • Witnesses • Dispositions	Output
4. Decrease in time from screening decision to trial	Average time from screening decision to trial	Efficiency
5. Increase in convictions	Number of convictions	Outcome

Justice Program Goals for Information Technology Addressed by the Project

1. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
2. Reduce errors in justice process operations through improved information sharing and management
3. Improve input to judicial decisions by expanding the scope and analysis of information available
4. Improve the ability of prosecutors to secure convictions through more effective case management and information exchange with other justice entities

Sex Offender Registry

DESCRIPTION: This project type includes efforts to build sex offender registries, expand appropriate access to those registries and automate the posting of records to those registries from court management and other agency information systems. "Sex offender" is assumed to be defined by state or federal statutes.

XVIII. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of additional queries of sex offender registry made possible by the project

This is the project-type version of summary measure #6: "Number of additional queries of special high-risk individual databases (such as domestic violence, sex offender, and terrorism databases) made possible by the project."

How to Calculate the Measure: Data to calculate this measure may come from logs of queries that are maintained on systems for security or other administrative purposes. Counting which queries are "additional" is straightforward if the project has provided an entirely new database. If the project provided access to a new class of users, access logs can be used to separate queries by those users. If the project enhances an existing system, the "additional" queries would be calculated as follows: (average daily queries since project implementation minus average daily queries during the 6 months prior to the project) multiplied by number of days since project implementation.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase the percentage of convicted sex offenders	Percentage of convicted sex offenders included in registry	Output
2. Increase in the number of counties submitting com-	Percent of counties submitting complete sex offender information to the registry	Output
3. Reduce the time from sex offense conviction of offender to inclusion in registry	Average days from date of conviction to date of posting to registry	Efficiency
4. Increase the number of authorized user queries to sex offender registry	Number of authorized user queries to sex offender registry	Output
5. Increase the number of queries by sensitive position employers that result in a positive return	Number of queries by sensitive position employers that result in a positive return	Outcome

Justice Program Goals for Information Technology Addressed by the Project

1. Strengthen the relationship between criminal justice agencies and the community they serve through increased information sharing with the public
2. Provide services and information related to specific offenders to victims and potential victims of crime through information systems
3. Enhance the ability to make appropriate hiring decisions for sensitive positions through increased access to complete and accurate criminal history and status

Warrant Repository

DESCRIPTION: This project type includes a variety of possible approaches to making warrant information available. Different warrant-related projects will focus on warrants from different sources in relation to a target jurisdiction or set of jurisdictions. Warrant availability might be improved by establishing a central repository/warehouse or a method of dynamically searching multiple local, state, or federal databases.

The specific project objectives and measures will depend on which agency(s)'s warrants are being made available to which agency or set of agencies.

XIX. BJA SUMMARY PERFORMANCE MEASURES FOR THE PROJECT

MEASURE: Number of arrests made of wanted individuals resulting from the use of electronically available warrant information

This is the project-type version of summary measure #5: "Number of arrests/detentions made possible by the project."

How to Calculate the Measure: This measure is based on the particular users for whom the project has facilitated warrant access: individual agencies or classes of users (including as patrol officers given mobile data terminal access.) The post-project period volume of warrant arrests for these users minus a pre-project baseline estimate gives the difference in number of arrests. Note: "arrest" here refers to an entry in the record that prevents the release of the individual until the warrant is satisfied. Therefore a project that provides warrant database access to a booking facility would count warrant bookings as arrests.

Project Performance Measures: Other Examples

Project Objectives	Performance Measures	Measurement Type
1. Increase percent of outstanding warrants available to local law enforcement by warrant categories: • Intra-jurisdiction • Intra-county • Intra-state • Inter-state regional • National	Percent of outstanding warrants available to local law enforcement by warrant category: • Intra-jurisdiction • Intra-county • Intra-state • Inter-state regional • National	Output
2. Decrease number of recalled, served, or inactive warrants appearing as valid	Number of invalid warrants appearing as valid based on periodic audit	Output
3. Decrease number of arrests of individuals on "bad" warrants	Number of arrests of individuals arrested and later released due to invalid warrant, errors in warrant details, or inaccurate identification	Outcome
4. Increase number of warrant arrests	Number of warrant arrests	Outcome
5. Reduce the number of outstanding warrants	Number of outstanding warrants	Outcome
6. Reduce the number of personnel responsible for the processing of warrants	Number of personnel full-time equivalents assigned to functions involving the production, recording, filing, retrieving, or transferring of warrant information	Efficiency

Justice Program Goals for Information Technology Addressed by the Project

1. Enhance the safety of law enforcement officers by increasing information available to patrol officers and dispatchers
2. Improve identification and apprehension of wanted individuals by providing more accurate and complete information to justice users
3. Reduce errors in justice process operations through improved information sharing and management
4. Improve the time, personnel, and cost efficiency of the justice process by automation of tasks and information sharing
5. Prevent acts of terrorism by improving information sharing and coordination among justice agencies

CHAPTER IX
How to Use This Guide

Performance Measurement for Justice Information System Projects is intended as a user- friendly guide to crafting performance measures for justice information sharing projects. The material it includes is intended to help managers, staff, and executives develop measures in two ways: by offering comments and advice on the process of developing measures, and by providing a catalog of workable examples for specific types of projects.

This guide is also designed to assist grantees in implementing summary performance *measures* showing the impact of a project upon a larger funding program and appropriate to PART review.

The best way to use the guide is to (as a team) read chapters I-V to gain an overview of the approach and then sample the projects listed in chapters VII and VIII to identify projects most similar to those being implemented by your agency. Once you have mastered the overall approach, begin working through the model to craft measures appropriate to your project, keeping in mind the criteria of effective measures (page 2) and the different types of measures described on page 2. In drafting measures for the project, ask as a team the following questions:

- Which goals does the project help us achieve? Follow material in Chapter II.
- How does the project help us achieve our goals? Follow material in Chapter III.
- What are the best measures of our agency's goals? Follow material in Chapter IV.
- How should our performance measures best be implemented? Follow Chapter V.

To design a single measure to capture the goals of your project, follow the sequence below:

1. As a justice information sharing professional, your agency would first identify one or more project types using the set of project types described in Part II of the guide. The project type(s) selected should be those that share components with your agency's project.
2. From the summary measure(s) provided for the selected project type(s), your agency should choose one or more measures that the agency feels captures the impact of its project. The choice will also depend on the feasibility of the measure for the agency. The "How to Calculate the Measure" section in the project-type descriptions provide instructions on implementing each measure.

3. Using Part I of the guide, your agency would work out in detail the summary measure strategy (such as selection of measurement periods) that its selected measure(s) present.

4. In addition to the summary measures, your agency should design its own project-specific measures using the Part II examples along with Part I of the guide. These measures will be designed to capture the project benefits and affects not captured in the summary measures.

Once a program performance measure has been proposed, it may be useful to review and critique your measure (defining a performance measure is rarely a one-step process). Ask as a team:

- Is the proposed performance measure understandable, clear, and feasible to implement?
- What type of performance measure is it—output, outcome, or efficiency?
- How might your measure best be compared and formatted?

The result of your effort will be the project measure, which should be proposed to define the results of your project. Be sure to include a summary performance measure that will indicate your project's contribution to the DOJ funding program as a whole as well as a project measure. This effort, although not a mechanical process, offers your agency a practical way to monitor your agency's information sharing investment as well the results attained from an investment in justice information sharing.

Final Thoughts

Performance measures represent a challenge for justice agencies concerned with demonstrating accountability in terms of investment in new justice information strategies. Performance measures are best used when they precede definition of business requirements, needs assessment, design purchase, and implementation of new justice information technologies. Performance measures, as suggested by this guide, represent an iterative process, which serves both internal and external needs. Whereas performance measures have been commonly used in business and corporate environments, application to the world of justice is relatively new. This may be the result of justice agencies that are difficult to define and even more difficult to measure. Pluralistic, politically defined, and even contradictory aims in criminal justice require a non-mechanical and reflective approach to the crafting of measures. This may have impeded the national adoption of performance metrics standards in the justice arena.

The purpose of this document is to assist criminal justice agencies in the crafting of responsive and verifiable performance measures. The authors hope the guide will help define, implement, and account for acquisitions related to justice information sharing. The challenges of a changing criminal justice system make a static set of measures improbable. Administrators

need to be reflective in reviewing these, as well as objective in the measurement of difficult to measure out-puts, efficiency, and outcomes. If there are questions about this document, please contact:

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APPENDIX
The Chain of Results and Logic Model

The Chain of Results

The *chain of results* is defined as a series of steps linking project activity to agency performance and agency performance to important outcomes that affect the lives of citizens. The chain of results' analytic process includes analysis of human, organization, technical, and workflow factors that may influence the outcome of an information technology project. Some questions that this process addresses include:

- Why do we believe that our project will result in improvements in the way we do our job?
- What new information will be available as a result of the project?
- To whom in the organization will it be available?
- How might that information help them do their jobs?

The logic model below is a process tool that may be useful to IT professionals analyzing the chain of results when developing valid performance measures for an information technology project. It is best conducted as a group project in which an internal or external facilitator leads the process, as is suggested in the guide, using the logic model template below.

Practitioners adopting this approach may want to keep in mind the following suggestions when using the logic model:

- Work as a team.
- Allow for broad group input from different roles within the organization.
- Define all terms (e.g., how do intermediate and long-term chains of results differ).
- Be open to brainstorming possible chains of results following introduction of the technology.
- Write down and "map" links to ideas and chain of results, and consider how one change may lead to another.
- Create a wide net for measurement ideas and recognize that some ideas may not prove feasible.
- Internally review the chain of results for verification and validation as it applies to your organization.

Logic Model for Performance Measures Results Chain Analysis

AFIS Example

Logic Model for Law Enforcement Performance Measures: AFIS					
Category	**Program Feature**	**Initial Results Chain**	**Intermediate Chain of Results**	**Long-term Chain of Results**	**Ideas for Possible Measurable Outcomes from Chain of Results**
Subject Identification	An AFIS system is introduced in the booking station of a regional correctional center	Introduction of AFIS technology improves the ability to identify arrestees at booking	1. Increased numbers of arrestees identified through the AFIS process prior to release 2. Improving the ability to identify arrestees at booking should decrease misidentification of arrestees 3. Better identifications should lead to more accurate warrant checks	1. More accurate warrant checks will improve the ability to locate outstanding warrants on suspects 2. These improvements should reduce the number both of inappropriate detentions and releases	1. Measuring the increased number of booked subjects whose outstanding warrants are discovered during processing 2. Quantifying the number of bad warrant arrests discovered during booking 3. Reduced litigation costs for false arrests

	Initial Chain of Results	Intermediate Chain of Results of Measures	Long-term Results Measures	Possible Outcomes Measures
Measures:	Does the introduction of AFIS: 1. "Take" within the organization? 2. Improve the ability to identify arrestees at booking?	1. Increase in number of arrestees identified by fingerprints before release 2. Increase in number of arrestees whose self-misidentifications are discovered during booking 3. Decrease in number of warrant misidentifications	1. Increase in number of booked subjects whose outstanding warrants are discovered during processing 2. These improvements should reduce the number both of inappropriate detentions and releases	1. Increase in number of booked subjects whose outstanding warrants are discovered during processing 2. Increase in number of bad warrant arrests discovered during booking 3. Decrease in number of arrestees improperly released despite outstanding warrants