The Evolution and Interface of Four Criminal Justice Information Systems: Interim Report

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The Evolution and Interface of Four Criminal Justice Information Systems: Interim Report

Joseph C. Calpin
Burton Kreindel
Lawrence Siegel

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The MITRE Corporation
Metrek Division
1820 Dolley Madison Boulevard
McLean, Virginia 22102

ABSTRACT

Under a grant from the National Criminal Justice Information and Statistics Service of the Law Enforcement Assistance Administration, the MITRE Corporation is reviewing the evolution of the following four criminal justice information systems: (1) the Computerized Criminal History System; (2) the Offender-Based State Corrections Information System; (3) the State Judicial Information System; and (4) the Prosecutor's Management Information System. The central focus of this review is on system interfaces, i.e., the exchange of information among information systems. This interim report summarizes the information gathered from site visits to the developers of each of the systems and to criminal justice professionals involved in the implementation and operation of these systems in six states. The evolution of these computerized systems, the influence of privacy and security regulations on system design, and the nature and extent of interface among systems as based on the experience of these states are presented. A number of preliminary findings emerge: (1) there is a trend toward utilizing transferrable software packages; (2) there is some confusion as to the extent of the applicability of privacy and security regulations; and (3) the extent of interface among these systems is somewhat limited.

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EXECUTIVE SUMMARY

Under a grant from the National Criminal Justice Information and Statistics Service (NCJISS) of the Law Enforcement Assistance Administration (LEAA), the MITRE Corporation is presently performing a review of the evolution of four computerized criminal justice information systems with special emphasis on interface among systems. This review focuses on four specific information systems:

- Computerized Criminal History system (CCH);
- Offender-Based State Corrections Information System (OBSCIS);
- State Judicial Information System (SJIS); and
- Prosecutor's Management Information System (PROMIS).

The purpose of the MITRE review is to assist NCJISS and the states in the formulation of overall policy with respect to the future direction of these four information systems. The review examines:

- the implementation and evolution of the systems and their objectives;
- the concept of multi-system interface and the extent to which it has been achieved; and
- the influence of privacy and security regulations on system design and operation.

Information sources for this review include interviews with the system developers at SEARCH Group, Inc. and at the Institute for Law and Social Research (INSLAW) and site visits to system implementers and users in state and local governmental agencies. This interim report summarizes the information gathered to date from the 6 states visited thus far. The final report of this project will be more comprehensive, covering the experiences of 15 states. The following are the interim findings:

- Goals and Objectives
  - The goals and objectives of these four systems are generally in line with those specified by the system developers.

- However, modifications have been made to meet the requirements of state and local agencies. For instance, Pennsylvania is emphasizing the need for probation and parole data in OBSCIS. The Prosecuting Attorney's Office in Kalamazoo, Michigan, is stressing the managerial applications of PROMIS.

- System Development

  - The basic design of the systems at the state and local levels generally follow the recommendations contained in the original system models.

  - However, considerable variation is evident in system implementation and operational status. For example, Pennsylvania has decided to develop a limited version of CCH consisting of a Master Name Index of offenders. In contrast, the Michigan and Georgia CCH systems more closely adhere to the original SEARCH model.

  - There is a trend toward utilizing transferable software packages and adopting new technologies such as mini-computers. This is the case in PROMIS and in the latest version of OBSCIS.

  - There appears to be some question as to whether it is viable to implement SJIS in a state with a non-unified court system.

- Level of Commitment

  - Commitment to the implementation and institutionalization of individual systems varies from state-to-state and system-to-system. Generally, the CCH systems, as the central repository of criminal history record information (CHRI), appear to have garnered the strongest support.

- Privacy and Security Regulations

  - The privacy and security regulations appear to have their greatest impact on CCH systems because these function as the central repository of criminal history information records.

  - While court records are exempt, there remains some question as to the regulations' applicability when an SJIS system aggregates CHRI.

- There is some confusion as to the extent of the applicability of the regulations, particularly in the case of PROMIS and to a lesser extent, OBSCIS.

- Criminal justice agencies have expressed some apprehension concerning the costs of implementing procedures to ensure privacy such as audit trails and file reviews.

- Interface

  - The extent of interface among systems is somewhat limited.

  - Information is generally exchanged between agencies rather than among systems.

  - Interface is usually achieved by the exchange of paper files rather than the transfer of tapes or direct computer links.

  - Proliferation of customized local systems may complicate interface.

These preliminary findings are amplified in the body of this report.

Analysis of these findings in six states suggest a number of potential policy considerations that need to be addressed at the national level. It must be stressed that these potential issues may require modification or restatement on the basis of data gathered in the entire 15 state sample. Nevertheless, the potential policy issues identified to date may be categorized as follows:

- General Interface Considerations: The need for system interface was articulated in the early 1970's and supported by NCJISS. However, the slow progress towards interface in the six states raises four questions:

  - To what extent is there a continued need to attempt to achieve interface among these four computerized criminal justice information systems? What are the precise benefits to be gained? What are the costs?

  - If there is a continued need for interface, what changes may be necessary to accelerate progress toward system interface?

- How should interface be achieved?

- What should be the data exchange requirements among these four systems in the future?

- If there is not a continuing need for interface, what is the proper framework for interactions among the systems?

- Potential Impact of Local Systems: While the interface of criminal justice systems is usually considered in terms of state level systems, recently the number of local criminal justice information systems has grown. The spread of such systems generates several policy issues:

  - How does the current proliferation of customized local criminal justice information systems impact on interface requirements?

  - In what way should the development of local systems be coordinated with state-wide systems? How can such coordination be accomplished?

  - Given the rapid decline in hardware cost and the trend toward distributive processing, how would these developments affect the future among systems?

- Privacy and Security Considerations: The implications of the growth of local systems and the application of new technologies raise new questions regarding the privacy and security regulations.

  - What is the specific extent to which the regulations apply to each of the four systems?

  - To what extent will the regulations apply to local systems?

  - How will technological advances affect privacy and security?

  - How will the privacy and security regulations affect interface among state and local information systems?

Resolution of these issues may have an important impact on the formulation of policy concerning the future development of individual computerized criminal justice information systems, the mechanisms required to meet privacy and security regulations, and the character of interface among systems.

1.0 INTRODUCTION

1.1 Purpose of Report

This project focuses on four distinct systems developed to meet the information needs of different criminal justice agencies:

- the Computerized Criminal History system (CCH);
- the Offender-Based State Corrections Information System (OBSCIS);
- the State Judicial Information System (SJIS); and
- the Prosecutor's Management Information System (PROMIS).

The primary goal of this project, which is funded by the National Criminal Justice Information and Statistics Service (NCJISS) of the Law Enforcement Assistance Administration (LEAA), is to assist the states and NCJISS in formulating overall policy regarding the future operation and interface (i.e., the exchange of data) between and among these information systems. Toward this end, MITRE is:

- reviewing the present status of interface among criminal justice information systems;
- identifying factors impacting on the development of interface; and
- assessing the potential for interface among systems.

For instance, part of the analysis will attempt to determine whether the various characteristics of each system, e.g., status of implementation, system applications or mode of system operations, may have impacted on the development of interface among the different systems. This interim report presents the results of MITRE's review to date, including:

- the basic assumptions underlying criminal justice information systems;
- the methods used in this review;
- the results of interviews with the developers of each of the four systems; and
- the information obtained during visits to six states.

1.2 Assumptions Underlying the Development of Criminal Justice Information Systems

The basic assumptions shaping the development and implementation of the four computerized criminal justice information systems in this study are common to all criminal justice information systems. These assumptions fall into four categories:

- Criminal justice agencies need timely and accurate information.[1]
- Criminal justice agencies can acquire the needed data by the use of computers and modern communication and information system technology.[2]
- There is a need for the interchange of information, i.e., interface, among criminal justice agencies.[3]
- There is a need to insure both the privacy and the security of the data contained in criminal justice information systems.[4]

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[1] President's Commission on Law Enforcement and Administration of Justice, Task Force Report: Science and Technology, Washington, D.C., U.S. Government Printing Office, 1967, pp. 2, 68-70, hereinafter cited as Science and Technology; President's Commission on Law Enforcement and Administration of Justice, Task Force Report: Crime and Its Impact--An Assessment, Washington, D.C., U.S. Government Printing Office 1967, pp. 123-125, hereinafter cited as Assessment of Crime; National Advisory Commission on Criminal Justice Standards and Goals, Report on the Criminal Justice System, Washington, D.C., 1973, pp. 2, 33-35, 37-40, hereinafter cited as Criminal Justice Systems.

[2] Science and Technology, pp. 68-69; Criminal Justice System, p. 33.

[3] Assessment of Crime, pp. 123-124; Science and Technology, pp. 70-71; Criminal Justice System, pp. 37-43.

[4] Science and Technology, pp. 74-76.

1.2.1 The Need for Information

The assumption that criminal justice agencies need information in order to achieve their operational and managerial goals and objectives efficiently and effectively would seem to be self-evident. Yet its national significance was not publicly recognized until 1931, when the Wickersham Commission suggested "...the development of a 'comprehensive plan' for 'a complete body of statistics covering crimes, criminals, criminal justice, and penal treatment at the Federal, State, and local levels'..."[5]

Some thirty years later, the President's Commission on Law Enforcement and Administration of Justice again stated that:

> ...(w)ith timely information, a police officer could know that he should hold an arrested shoplifter for having committed armed robbery elsewhere. With a more detailed background on how certain kinds of offenders respond to correctional treatment, a judge could sentence persons more intelligently. With better projections of next year's workload, a State budget office would know whether and where to budget for additional parole officers.[6]

Then, in 1973, the National Advisory Commission on Criminal Justice Standards and Goals made similar points:

> (a)ll criminal justice agencies, those with operational responsibilities and those with planning or policy responsibilities, require substantial data to function properly as a part of the overall criminal justice system. In general, criminal justice agencies require information on the events

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[5] U.S. National Commission on Law Observance and Enforcement, Report on Criminal Statistics, Washington, D.C., U.S. Government Printing Office, 1931, pp. 3, 6, as cited in Assessment of Crime, p. 123.

[6] Science and Technology, p. 68.

> that initiate and terminate criminal justice processes; on people (suspects, victims, offenders, etc.) who are relevant to the operation of the criminal justice system; on property (particularly when stolen or associated with a criminal event); and on the operation of the agencies themselves.[7]

Both Commissions decried the lack of timely and accurate data and its availability in a form which could be used by criminal justice agencies for decisionmaking.[8]

1.2.2 The Use of Modern Technology

Both the President's Commission and the National Advisory Commission were of the opinion that the application of modern information technology to criminal justice would result in the provision of the timely and accurate information needed by decisionmakers for operational, planning and policy setting tasks. Drawing an analogy from the fields of business and defense, the President's Commission stated that:

> (m)odern information technology now permits an assault on these problems at a level never before conceivable. Computers have been used to solve related problems in such diverse fields as continental air defense, production scheduling, airline reservations, and corporate management. Modern computer and communications technology permits many users, each sitting in his own office, to have immediate remote access to large computer-based, central data banks. Each user can add information to a central file to be shared by the others. Access can be restricted so that only specified users can get certain information.
>
> Criminal justice could benefit dramatically from computer-based information systems, and

[7] Criminal Justice System, p. 37.

[8] Assessment of Crime, p. 123; Criminal Justice System, p. 37.

development of a network designed specifically for its operations could start immediately. (Emphasis added.)[9]

1.2.3 Interface

In its work, the President's Commission recognized the fact that each criminal justice agency has information needed by other criminal justice agencies. Consequently, the Commission recommended that communication links be established by a variety of mechanisms among these different agencies at the local, state and national levels.

> An integrated national information system is needed to serve the combined needs at the National, State, regional and metropolitan or county levels of the police, courts, and correction agencies, and of the public and the research community. Each of these agencies has information needed by others; an information system provides a means for collecting it, analyzing it, and disseminating it to those who need it. Each can be kept in close communication with the others, and information transferred by voice, by teletype, or computer to computer.[10]

In this context, the Commission stressed the necessity of developing minimum uniform standards for the exchange of data.

> ...Information to be exchanged with other jurisdictions must, however, meet minimum standards of content and format. Furthermore, reporting jurisdictions must be responsible for updating their portion of a common information pool. Only that way, can the files be kept current and complete and the systems not saturated with useless information.[11]

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[9] Science and Technology, p. 68.

[10] President's Commission on Law Enforcement and Administration of Justice, The Challenge of Crime in a Free Society, New York, Avon Books, 1968, p. 606, hereinafter cited is The Challenge of Crime.

[11] Science and Technology, p. 70.

However, the President's Commission was cognizant of the fact that local and state criminal justice agencies have primary responsibility for police, courts and corrections throughout the United States. Consequently, the Commission stressed the need for local and state agencies to tailor the development and implementation of information systems to their own requirements.

> Since law enforcement is primarily a local and State function, the overall program must be geared to the circumstances and requirements of local and State agencies; and, wherever practical, the files should be located at these levels. Even the specifications and procedures of the national system must conform to local needs, and should be developed by people familiar with them.[12]

Unstated in the Commission's recommendations is the assumption that State and local criminal justice agencies agree that there is a need to exchange data among agencies and are willing to do so.

1.2.4 Privacy and Security

There are a number of well known problems associated with data collected by criminal justice agencies. For instance:

> The record may contain incomplete or incorrect information.
>
> The information may fall into the wrong hands and be used to intimidate or embarrass.
>
> The information may be retained long after it has lost its usefulness and serves only to harass exoffenders, or its mere existence may diminish an offender's belief in the possibility of redemption.[13]

Prior to the application of computers and information technology in criminal justice, the inefficiencies inherent in manual files

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[12] The Challenge of Crime, p. 606.

[13] Science and Technology, p. 74.

provided a form of built-in protection. However, by decreasing the inefficiency of manual files, modern technology has aggravated the problems regarding the privacy and security of criminal justice data. The term "privacy" refers to the protection of the interests of the individuals whose names are maintained in the files of criminal justice information systems. The term "security" denotes the measures taken to protect a criminal justice information system and its contents from accidental or intentional intrusion and/or damage.[14]

In response to the perceived need to ensure the privacy and security of criminal history record information, the U.S. Department of Justice promulgated regulations related to this problem in 1975 which were amended in 1976. This development has been parallel by the enactment of privacy and security laws by the individual states.

It has been suggested that any laws and/or regulations regarding the protection of privacy and security be based on three basic policy assumptions:

- first, the standards must recognize that criminal justice information has the potential to invade the privacy of and otherwise stigmatize and harm subject individuals;
- second, the subject's interest in regulating criminal justice information must be balanced against society's interest in using this information; and
- third, automated technology inevitably must assume a larger role in the handling of criminal justice information.[15]

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[14] Science and Technology, pp. 74-77; Criminal Justice Systems, pp. 114-118.

[15] SEARCH Group, Inc., Standards for Security and Privacy of Criminal Justice Information, (Second Edition), Technical Report No. 13, Sacramento, California, January 1978, p. 2.

2.0 METHODOLOGY

In order to address the objectives of this project and the programmatic concerns of NCJISS, a multi-stage data collection effort was devised. First, MITRE staff reviewed with the NCJISS project monitors the development and current status of each system at the national, state and local levels. This initial knowledge gathering task was complemented by the second stage, a comprehensive literature review, primarily of documents prepared by the system developers. Findings from these initial data gathering activities were summarized and presented in an earlier paper.[16]

The third and fourth stages of data gathering concentrated on the actions undertaken by the system developers, implementers and users. The third stage consisted of discussions with system developers regarding the design and evolution of the basic models. Interviews with a selected group of state and local officials concerning system development, implementation and utilization comprised the fourth and final stage of the data collection task.

The remainder of this chapter focuses on the methodology entailed in conducting the third and fourth stages of the data collection effort. Among other topics discussed are: application of the site selection criteria; selection of the actual sample; delineation of the data sources; and development of a field survey instrument to guide data collection.

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[16] Joseph C. Calpin, Lawrence G. Siegel and Burton Kreindel, The Criminal Justice Information System Project: An Overview of Four Systems, WP 13560, The MITRE Corporation, November 16, 1978.

2.1 Site Visits to System Developers

Site visits to the developers of CCH, OBSCIS, SJIS and PROMIS were conducted to document and understand their perceptions and influence relative to the development and evolution of each of the four criminal justice information systems. The developers' descriptions of the basic models or prototypes provide a baseline for examining and comparing the implementation and evolution of those systems in sites throughout the United States. During these site visits MITRE staff discussed the conceptualization and development of the basic models with representatives from the following organizations:

- SEARCH Group, Inc.--CCH, OBSCIS and SJIS;
- National Center for State Courts--SJIS; and
- Institute for Law and Social Research (INSLAW)--PROMIS.

Through these site visits MITRE was able to take an historical look at the role of the developers in the conceptualization and development of each of the systems with respect to the formulation of the initial goals and objectives and their evolution to the present time; the relationship between potential interface among systems and the development of individual systems; and the influence of privacy and security regulations on system design and implementation. The discussions also examined the problems encountered in developing these systems, any actions initiated to surmount these difficulties, and future plans for system development and institutionalization.

2.2 Site Visits to State and Local Systems

Much of the empirical data for this review are being drawn from a sample of state and local agencies with a wide range of

implementation experiences relevant to the objectives of this study. For analytic purposes the selection of sites was based on three criteria:

- the number of systems implemented and operational within a state;
- the age of these systems; and
- the operational uniqueness of one or more implemented systems in a state (e.g., the development and implementation of a statewide PROMIS).

Additionally, the level of compliance with privacy and security regulations of criminal history records was taken into consideration when information on the status of compliance was available (e.g., as indicated by a previous MITRE assessment).[17]

Table I, based on LEAA grant dates, provides an estimate of the implementation status of the four information systems in each of the 50 states. The dates presented in Table I under the columns labelled "CCH", "OBSCIS", and "SJIS" refer to periods of LEAA funding for the development, implementation and operation of these information systems at the state level. In the case of CCH, reference to "NCIC" indicates state participation in the FBI's National Crime Information Center Computerized Criminal History program. The column labelled "PROMIS" denotes those states where a PROMIS system is reported as operational in at least one jurisdiction as of September 1978. In order to maximize the value of the knowledge gathering effort, the first cut of the selection criteria identified those states reporting all four systems implemented. Site visits to states meeting this criterion are especially important since they provide the best potential for investigating system interface and its consequences for system development, implementation and

[17] E.J. Albright, et al., Implementing the Federal Privacy and Security Regulations, Volume 1: Findings and Recommendations of an Eighteen State Assessment, The MITRE Corp. MTR-7704, December 1977.

TABLE I

FUNDING STATUS OF THE FOUR INFORMATION SYSTEMS IN EACH OF THE 50 STATES AS OF NOVEMBER 1978

State	CCH*	OBSCIS*	SJIS*	PROMIS**
Alabama	1976-(NCIC)	1976	1976-	Operational
Alaska				
Arizona	1973-(NCIC)	1975	1977	
Arkansas	1973-75	1976		Operational
California	1974-(NCIC)	1974		Operational
Colorado		1974		Operational
Connecticut	1977-	1976	1978	
Delaware	1976-	1978	1978	
Florida	1973-76 (NCIC)	1974	1975	Operational
Georgia	1977-78	1974	1974-1977	Operational
Hawaii	1976-	1974	1974-1978	
Idaho	1974-		1974-1976	
Illinois	1976-(NCIC)	1974		
Indiana				Operational
Iowa	1978-	1978		
Kansas	1977-	1978		
Kentucky				Operational
Louisiana	1973-		1974-1978	Operational
Maine	1974-	1978	1975-1978	

*Based on LEAA grant dates

**At least one PROMIS system operational in at least one jurisdiction.

TABLE I (Continued)

State	CCH*	OBSCIS*	SJIS	PROMIS**
Maryland	1975-	1974		
Massachusetts	1974-	1974		
Michigan	1973-77 Current (NCIC)	1975	1976	Operational
Minnesota	1976-76	1974	1974- 1978	
Mississippi				
Missouri	1974-		1974- 1977	
Montana	1976-77	1975		
Nebraska				
Nevada	1975-	1975		Operational
New Hampshire	1977-	1978		
New Jersey	1973-78	1976	1975-	
New Mexico		1975	1977- 1978	
New York	1975-	1975		Operational
North Carolina	(NCIC)		1979	
North Dakota				
Ohio	1974-(NCIC)	1975	1979	
Oklahoma	1974-75 1977			
Oregon			1974- 1977	
Pennsylvania	1976-	1976	1976-	
Rhode Island			1976-	Operational
South Carolina	1976-78 (NCIC)	1975		
South Dakota				

TABLE I (Concluded)

State	CCH*	OBSCIS*	SJIS*	PROMIS**
Tennessee				
Texas			1980(?)	
Utah	1973-	1978	1978	Operational
Vermont				
Virginia	1974-77 (NCIC)	1975		
Washington			1976	
West Virginia				
Wisconsin		1978		Operational
Wyoming	late 1978			

NOTE: This table represents only an initial estimate of the implementation status of each system based on LEAA grant dates and other information supplied by NCJISS, project monitors and national developers, (e.g., INSLAW). Table II is the result of MITRE's initial efforts to apply site selection criteria based on this information. It is anticipated that some of this information may be "state", i.e., out of date, or misleading. In some instances, the status of funding is not certain. In others, it is less than clear if the expiration of federal support resulted in the institutionlized, or conversely the termination of a particular project. Consequently, MITRE staff will continually seek to verify the implementation status of systems prior to any site visits. The results of this process will be presented in the final report.

utilization. The second cutting point dealt with the length of time that the systems have been operational within a state. In order to visit systems where the users have had an opportunity to confront the issues of interface, privacy and security regulations, and so on, it was felt that the systems should be operating for at least one year at the start of this survey. The third criterion focused on the uniqueness of the implementation situation within a state. This included states where two or more of these systems were in the initial stages of operations, states where these systems were in different stages of operations, and/or states which appeared to reflect future trends in the application of these systems; for example, Rhode Island where PROMIS is being implemented on a statewide basis. The final site selection criterion concerned the degree of compliance with privacy and security regulations by the state.

The results of applying these selection criterion are presented in Table II. As shown in this table, only three states--Florida, Georgia, and Michigan--appear to meet the primary criteria of having all four systems operational for at least one year. These three states not only offer the best potential for examining multi-system interface, but also should provide a wealth of information for investigating the evolution of system goals and objectives and the impact of privacy and security regulations. Furthermore, both Florida and Georgia represent a special condition with the use of PROMIS as a judicial information system.

Ten states (or sites) have had three of the four information systems operational for at least one year. As such, these sites meet the second site selection criterion. Special conditions are also evident in one of these sites, New Jersey, which is presently examining the possibility of implementing PROMIS as a court information system.

TABLE II

APPLICATION OF SITE SELECTION CRITERIA*

	Criterion #1 4 Systems for at least one year	Criterion #2 3 Systems for at least one year	Criterion #3 Special Conditions	Criterion #4 Privacy and Security Compliance**
Cut 1				
Florida	Yes		PROMIS used in a Judicial District	Low
Georgia	Yes		PROMIS used in a Judicial District	
Michigan	Yes			
Cut 2				
Alabama		Yes		
Arizona		Yes		Medium
California		Yes		High
Hawaii		Yes		
Louisiana		Yes		
Minnesota		Yes		High
Nevada		Yes		
New Jersey		Yes	Looking at PROMIS as a Court System	
New York		Yes		Medium
Pennsylvania		Yes		Low
Cut 3				
Wisconsin			PROMIS used as a Court System; OBSCIS being implemented	
Rhode Island			PROMIS adopted by Courts	
Utah			Supposed to have excellent CCH and also latest application of OBSCIS	

*This table includes only those sites that meet the site selection criteria #1, 2, or 3. The other potential sites not included in this table failed to meet these criteria.

**Ratings relative to compliance with privacy and security regulations are based on E.J. Albright, et al., Implementing the Federal Privacy and Security Regulations, Volume 1: Findings and Recommendations of an Eighteen State Assessment, The MITRE Corp., MTR-7704, December 1977.

There are three reasons for including Wisconsin, Rhode Island, and Utah on the basis of the special conditions criterion. First, as with several other sites, PROMIS has been implemented in Milwaukee, Wisconsin as a court information system; additionally, OBSCIS is being initiated state-wide in Wisconsin. Second, in Rhode Island PROMIS has been adopted state-wide by the courts. Third, Utah is reputed to have an excellent CCH system as well as the latest application of OBSCIS.

Data concerning compliance with privacy and security regulations (criterion #4) are only available for 18 states and thus less than complete.[18] Of these 18 states, six met one or more of this project's three other selection criteria. Of these, two were previously rated high in compliance with the regulations, while two received a medium rating and two were judged low.

Using these criteria, 16 states were selected to be visited as part of this review. Thus far field trips have been conducted to six states--Florida, Georgia, Michigan, Arizona, Pennsylvania and Rhode Island. Data presented in the remainder of this report concerning state and local efforts to implement and operate CCH, OBSCIS, SJIS and PROMIS are based on information gathered during site visits to those six states.

2.3 Data Collection Guidelines

In addition to reviewing the present and potential interface among these systems, MITRE staff explored a range of issues that might affect interface. Included among the issues examined were the evolution of each system's goals and objectives, the impact of privacy and security regulations on system development and utilization,

[18] Ibid.

considerations for future program development, and the nature of problems encountered and solutions devised. To facilitate this data collection effort, MITRE staff developed two interview guidelines.[19]

One guideline was used to direct interviews with the system developers/implementers, while the other guideline was utilized to structure interviews with state and local-level information system implementers/users. The questions posed by these interview guidelines address basic topics of interest to NCJISS. The nature and scope of the questions included in the guidelines are wide-ranging; consequently, some are more relevant than others for specific sites.

[19]Copies of these information collection guidelines are presented in: J. Calpin, B. Kreindel and L. Siegel, Site Selection Criteria and Information Collection Guidelines, WP 79W00032, The MITRE Corporation, January 5, 1979.

3.0 SYSTEM DESCRIPTIONS: THE DEVELOPERS' PERSPECTIVES

This chapter presents the developers' perceptions of CCH, OBSCIS, SJIS and PROMIS in terms of basic criminal justice information system models. Each model is defined in terms of its conceptual framework and historical evolution. System descriptions delineate initial goals and objectives and trace their evolution, investigate the impact of privacy and security regulations on design, and examine the relationship between potential interface among systems and development of individual systems. Where applicable, summaries of the basic models also detail problems which were encountered during the development process as well as any actions instituted to solve these difficulties.[20]

3.1 Computerized Criminal History System

3.1.1 Goals and Objectives

During the late 1960's a few members of the criminal justice community perceived the need for computerized criminal history records. It was felt that automation would enable criminal justice agencies to improve the accuracy and completeness of their criminal history record information and to exchange this information in a more timely manner. Consequently, state law enforcement officials from Arizona, California, Florida, Illinois, Michigan and New York went to the Law Enforcement Assistance Administration to obtain funds to test the feasibility of exchanging criminal history identification information using computer technology and, thereby, improve the criminal history identification function. Based upon this initial impetus, the LEAA provided seed money to these six states in order to automate rap sheets and develop state-level computerized criminal history

[20] For additional descriptive materials regarding the development of these systems see: Joseph Calpin, Lawrence Siegel and Burton Kreindel, The Criminal Justice Information System Project: An Overview of Four Systems, WP 13560, The MITRE Corporation, November 16, 1978. This working paper presents the results of a literature review of documents prepared by the developers to describe the basic models.

information systems. Designated as a feasibility test, the CCH program was placed under the aegis of Project SEARCH (which later evolved into SEARCH Group, Inc.).

Within this general context, CCH had two primary goals. These goals were:

- create automated state-level repositories containing detailed rap sheet information to form the basis of a system of exchanging criminal history information among states; and
- develop a central index containing summary criminal identification data to be maintained, at least initially, by the State of Michigan.

Additionally, the CCH program was designed to address a number of more specific objectives:

- improve the quality and accuracy of rap sheets;
- improve the speed and timeliness of the exchange of criminal history information across state boundaries; and
- overcome the problem of volume inherent in manual information systems.

To achieve these ends, CCH was conceptualized as both a single-state and a multi-state system. Among other things, the developers specified the data elements comprising the basic CCH files, delineated the flow of information from local authorities to state agencies, and designated the linkages among states. However, system implementers and users in each state were presented with the task of developing most of the software packages needed to transmit, analyze and maintain the CCH data.

3.1.2 System Description

CCH was initially designed to operate as follows. When an offender was arrested in a specific state, state-level law enforcement officials would be able to immediately query via computer the central index maintained in Michigan in order to ascertain whether or not the alleged offender had a criminal record in another CCH state(s). Any immediate response to the inquiry would be considered tentative. Positive identification of the arrestee would be a subsequent step to be achieved by sending a facsimile of the fingerprint card. If the central index indicated a "hit", the state originating the request would receive a summary rap sheet containing identification information (including the offender's name, aliases, CCH identification number) and a list of states maintaining a detailed criminal history record on the offender. The state originating the criminal history information request could then query the state(s) maintaining the detailed record on the offender in question, specifying the purpose(s) of the inquiry. Based on the specified need(s), the state(s) owning the records would, in turn, decide whether or not to honor the request and forward the detailed rap sheet by electronic means.

As the Project SEARCH CCH feasibility test progressed, participation in the program grew from the initial six states to ten states, then to fifteen and finally to twenty states.

After the feasibility test, the participating states went to the LEAA and requested that a national CCH program and index be set up. The LEAA, in turn, convened a meeting in 1971 with the Federal Bureau of Investigation (FBI), the United States Attorney General and Project SEARCH to develop a national program. Subsequently, the Attorney General made the decision to put the FBI in charge of the CCH program as part of the National Crime Information Center (NCIC) under the direction of the NCIC Advisory Board. Following that

decision, the FBI altered the basic structure of the CCH program, requiring that a national repository (as opposed to an index) be set up containing complete rap sheets. Under that concept there would be a duplication of records, with detailed rap sheets being maintained at both the state and national levels. Project SEARCH withdrew from the redirected CCH program.

One consequence of that change of direction has been that only a few states have been willing to participate in the national program and supply NCIC with detailed rap sheet information. However, under the sponsorship of the LEAA, state-level CCH programs have continued. In essence, this course of events has led to two CCH programs--one at the national level and another at the state level. Additionally, only some of the states have proceeded to develop and implement fully automated systems, while others have continued to maintain manual state-level repositories.

3.1.3 Privacy and Security Considerations

Privacy and security concerns have been an important consideration in the design and development of CCH. These regulations differ from state to state. Under the original CCH concept each state would decide whether or not to respond to a data inquiry from another state, based on both the specified needs for the information and how these needs complied with privacy and security regulations.

When the FBI was placed in charge of the national CCH program, they attempted to set up and control a national switching system predicated on the concept of a central repository. This proposed system would have given the FBI control over response decisions which might have been in conflict with many state-level privacy and security regulations. Congress considered the problems inherent in the FBI's plans for a central repository and prevented further development of the switching system.

With this development, it was once again left up to the individual states to decide how to respond to national privacy and security regulations. Many state legislatures have also passed privacy and security laws, further impacting on the CCH system in terms of factors such as physical security of the files, access and dissemination, scope of information contained in the files, and completeness and accuracy of the data.

3.1.4 Interface Considerations

The participating states realized circa 1970 that CCH provided good arrest data, but important judicial and corrections information was lacking. This led NCJISS to encourage the development of SJIS and OBSCIS: the former designed as a module to meet the judicial data reporting requirements of CCH and the latter developed as the module to fulfill similar reporting obligations for corrections. The data for the three systems were to be maintained in their modular format at the state-level repository, with interface achieved via common identifiers--primarily case and defendant identification numbers. However, no formal recommendations were made regarding the methods for exchanging data, e.g., computer-to-computer interface or the exchange of tapes, or institutionalization of system interface.

The interface between state-level CCH systems as conceived in the initial plan took the form of a central index to be maintained at one location and accessible to all states. Under the FBI's CCH approach, the individual states would not be involved in answering inquiries. Decisions to disseminate any records would rest entirely with the NCIC/CCH. The automated interface between state systems when a "hit" was indicated would be eliminated.

3.2 Offender-Based State Corrections Information System

3.2.1 Goals and Objectives

The Offender-Based State Corrections Information System, which is an outgrowth of the Prisoner Accounting Information System, was begun in 1974. It was conceived to both meet the obligations of a national reporting system and to meet the requirements of state corrections officials for transaction data concerning criminal offenders.

OBSCIS was designed to achieve three primary goals. These goals are:

- provide data needed to satisfy the national reporting requirements of National Prisoner Statistics (NPS) and Uniform Parole Reports (UPR);
- provide correctional data for the state-level CCH system; and
- provide timely and accurate corrections data to state officials for operational and management decision-making.

Within this general context, OBSCIS targets the four following objectives:

- provide inmate population and movement statistics;
- provide data regarding inmates participating in rehabilitation and other programs;
- use these data to evaluate inmate progress and program impact; and
- use these data to make projections concerning funding, facilities and personnel needs.

These goals and objectives have remained constant throughout the life of the program.

3.2.2 System Description

From an historical perspective, OBSCIS was launched in 1974 when corrections officials from ten states convened a meeting, with representatives from SEARCH Group, Inc. in attendance, in order to discuss the possibility of building an automated data system to

address both national and state-level information needs. This meeting and subsequent work focused on attempts to identify common high priority information needs of correction officials and the development of a modular concept to provide correction data for state and national reporting requirements (CCH, National Prisoner Statistics, and Uniform Parole Reporting). During the same year, LEAA began funding OBSCIS in the ten states. Participation in the OBSCIS program has since increased steadily. The original ten states were joined by eight more in 1975-76, with membership in the LEAA-funded program growing to twenty-three states in 1976-77 and now including over thirty states, plus the District of Columbia.

As originally designed, each state was to implement an OBSCIS system tailored to its own needs, but each system would conform to a standard model with core data elements and functional descriptions for eight application areas (admissions, assessment, institution, parole, movement status, legal status, management and research, and national reporting). Over the past several years, however, the implementation strategy has changed as part of an evolutionary process growing out of the specific capabilities and needs of the states and the development of mini-computer technology. Taking what already worked from the states, SEARCH Group, Inc., developed a basic OBSCIS software package consisting of three applications--admissions, movement and national reporting, Equipped with this software package, SEARCH representatives proceeded to set up OBSCIS in the following manner. One or two persons from SEARCH Group, Inc. would go into an OBSCIS program member state and work with the local staff (e.g., a computer programmer and/or system analyst). During these work sessions (which may last from a few weeks to several months depending on local needs and the frequency of the meerings), SEARCH staff would explain the software package, point out potential problems,

make suggestions concerning the acquisition of hardware, detail program development and estimate a time frame for accomplishing various tasks. The advantages of this approach appear to be that it facilitates implementation, reduces cost and improves transferability.

3.2.3 Privacy and Security Considerations

In terms of system design and development, it was recognized that OBSCIS systems must ensure the privacy and security of the data collected and maintained. Recommendations for developing procedures to guarantee privacy and security parallel those implemented by other information systems facing similar problems, e.g., personnel screening, physical security and controls designed to assure the quality of data processing. However, the development of operating procedures to ensure privacy and security was not a primary concern in the conceptual development of OBSCIS compared to CCH systems which function as central repositories of CHRI. This may be because federal and state regulations tend to focus on the collection, maintenance and dissemination of CHRI and not specifically on correctional files. However, it was recommended that OBSCIS managers take into consideration the federal regulations and their own state's requirements for privacy and security in implementing OBSCIS.

3.2.4 Interface Considerations

As previously stated, OBSCIS was conceived to supply data to several other criminal justice information systems. On the national-level, OBSCIS is supposed to feed into both UPR and NPS in order to fulfill national reporting requirements. On the state-level, OBSCIS is designed to interface with CCH and provide data for the corrections module. This interface of OBSCIS with other information

systems is to be accomplished via data elements and a data dictionary. Key identifiers are used to provide links between systems.

If states desire, OBSCIS can also interface with the State Judicial Information System using the same identification elements. This interface has one particular advantage. It allows corrections officials to use court presentence information in order to place inmates in facilities and programs best suited to their needs. At the same time, interface between OBSCIS and SJIS can reduce duplicate, and often costly, data gathering efforts.

3.3 State Judicial Information System

3.3.1 Goals and Objectives

The courts, like other components of the criminal justice system, need timely and accurate data for both management and operational purposes. Aware of these fundamental needs, representatives from the Supreme Courts of eleven states met during the early 1970's to develop a general court information system model. In response to the need for state-level automated court information systems, the NCJISS/LEAA initiated the State Judicial Information System project in 1973.

During the initial development phase, it was decided that SJIS should be designed to address two primary goals/objectives. These goals are:

- develop state-level automated information systems in order to improve the quality and quantity of data used for management decision-making
- provide required court data for CCH (and OBTS) to appropriate state repositories.

These goals have remained unchanged throughout the SJIS program.

3.3.2 System Description

The LEAA marked the beginning of its involvement with SJIS by inviting a handful of states to participate in a national-level program, providing each with up to $200,000 seed money. Concurrently, SEARCH Group, Inc., was funded to establish key parameters of the proposed information system, provide the states with guidance in designing, developing and implementing the system, and perform assessments of state efforts.

Because of differences in court systems among states, it was decided at the outset not to impose uniform specifications on the design and development of the SJIS. Rather, the basic idea that unfolded was to devise a general model that could be tailored to the specific needs of individual states. In turn, each state would establish its own set of priorities for developing and implementing various modules (e.g., trial courts, personnel, or finance) of the basic SJIS model. As a result, some systems have evolved from a top-down approach, while others have been built on a bottom-up foundation. Similarly, some SJIS systems use mini-computers for data input, storage, manipulation and output, while full-scale computers are at the center of other State Judicial Information Systems.

The SJIS program has continued to expand over the past several years. Presently, twenty-three states are participating in the program with LEAA providing each state with up to $400,000 in support of system development and implementation.

3.3.3 Privacy and Security Considerations

Court records have been traditionally considered to be within the public domain, open to whomever cared to take the time to scrutinize them. As a consequence of this commonly held position,

privacy and security regulations have had no real impact on the design, implementation and operation of SJIS. In some states, limited consideration was given to restricting access, but even in these instances the effect on system development has been minimal.

3.3.4 Interface Considerations

SJIS is intended to interface with CCH. As a judicial information system, it is designed to capture and process information concerning the movement of defendants and cases through the courts. As such, SJIS is supposed to provide the date elements of the judicial module required to meet the state-level reporting obligations of CCH.

The interface between SJIS and CCH is supposed to be accomplished through common data elements. More specifically, CCH identification numbers can be assigned to each case and each defendant. In turn, these identifying numbers are supposed to be used to link SJIS with CCH.

3.4 Prosecutor's Management Information System

3.4.1 Goals and Objectives

PROMIS was initially designed to address the operational and research needs of the United States Attorney's Office for the District of Columbia in its Superior Court Division. The system, under the tutelage of its developers (now at INSLAW), was placed in operation during January 1971. As a management tool, PROMIS was devised to assist prosecutors in meeting their daily operational needs, establish and monitor office policy, and conduct research. Within this general context, PROMIS had four primary goals. These goals were:

- expend resources on the preparation of cases in a manner proportionate to the relative importance of the cases
- monitor and ensure evenhandedness and consistency in the exercise of prosecutorial discretion
- control and alleviate scheduling and logistical impediments in the adjudication of cases on their merits
- locate and analyze problems in the screening and prosecution of criminal cases.

The four goals of PROMIS as stated by INSLAW have remained consistent; however, the more specific objectives of local agencies in implementing and using this system may vary according to particular needs. Further, the goals and objectives will probably be modified to reflect the recent application of PROMIS-based systems to the courts and the corresponding shift from an operational perspective to a managerial orientation.

3.4.2 System Description

In order to address its goals and objectives, the PROMIS system gathers approximately 170 pieces of data relevant to six major categories of information of interest to prosecutors:

- data about the accused or defendant
- data about the crime
- data about the arrest
- data about criminal charges
- data about court events
- data about witnesses.

In this scheme, the flow of data begins at the intake and screening stage of case processing as a by-product of the prosecutor's effort to document a case. As the processing of the case continues, additional information is gathered and inputed into PROMIS. The data are then collected, analyzed and disseminated in the form of reports. All totaled, there are five categories of reports: misdemeanor calendars; felony calendars; case status reports; workload reports;

and special reports. Some of these are similar to those which would be generated by a court information system.

During the early 1970's INSLAW operated PROMIS for the U. S. Attorney's Office, refining the system and expanding its utility. Then, in the mid-1970's, INSLAW redesigned and reprogrammed PROMIS to increase the system's general usefulness to state and local prosecutors and make it more amendable to transfer to interested prosecutor offices throughout the United States. Concurrently, INSLAW also developed a non-automated version of PROMIS for agencies that did not have access to computer facilities. A revised version of PROMIS (to be available in 1979) features a flexible software package adaptable to mini-computers. This particular design is intended to provide local jurisdictions with the capability to tailor PROMIS to their own objectives and requirements. In addition, versions of PROMIS are now also being considered for court information systems and are being implemented as such in several jurisdictions.

3.4.3 Privacy and Security Considerations

The original version of PROMIS was designed to comply with federal privacy and security regulations. Subsequent versions of PROMIS have also incorporated a host of general programming features (for example, passwords to limit access) meant to enhance the privacy and security of the data files. Because PROMIS must be tailored to the particular needs of local users, specific design characteristics built into the system vary from one jurisdiction to the next.

3.4.4 Interface Considerations

As originally developed in the District of Columbia, PROMIS was designed to interface with the other components of the criminal justice system within that jurisdiction via a commonality of data

elements. Interface with other systems is not a stated goal of PROMIS in terms of its transfer, implementation and use in jurisdictions beyond the District of Columbia, but the potential for such interface does exist, given the number of links or "hooks" included in PROMIS.

4.0 REVIEW OF SYSTEM EVOLUTION AND OPERATION: THE USERS' PERSPECTIVES

As may be expected, the evolution and operational status of these four systems differ from state to state as well as within a state. Local needs and interests have led to different applications being stressed in individual sites. Further, the reconstruction of system development history was made difficult in some cases due to personnel changes; people who were directly involved with system development implementation or operation have since left the agencies. Consequently, the system reviews presented herein are based on the best information available from state and local officials currently responsible for these systems and may differ slightly in depth of coverage from one summary to the next.

4.1 Computerized Criminal History Systems

Of the six states thus far visited, four of them--Arizona, Florida, Georgia and Michigan--have implemented and are presently operating a CCH system. A fifth state, Pennsylvania, explored the possibility of implementing a CCH system, but has since changed direction and is planning to implement only a computerized master name index instead. The implementation processes and operational procedures defining each state's CCH system are described in the following subsections. To complement these summaries and facilitate comparison among states, selected characteristics for each of these CCH systems are presented in Table III.

4.1.1 Arizona

Arizona involvement in CCH began during 1969 when it, along with five other states in collaboration with Project SEARCH, initiated development of a prototype system for the exchange of computerized criminal histories. The objectives adopted by the Arizona project

TABLE III

SELECTED CHARACTERISTICS OF CCH SYSTEMS BY STATE*

Characteristics / State	Implementation Status of Computerized Systems	Participation in NCIC/CCH	Operating/ Controlling Agency**	Mode of System Operation	Records Conversion
Arizona	Operational	Full participation	Dept. of Public Safety (Arizona CIC)	On-line and batch	Complete conversion, but have not been able to keep current
Florida	Operational	Full participation	Florida Dept. of Criminal Law Enforcement (Florida CIC)	On-line	Day-one instant offense; historical update in progress
Georgia	Operational	Access to NCIC files, but do not contribute	Dept. of Public Safety/Dept. of Administrative Services (Georgia CIC)	On-line and batch	Day-one instant offense
Michigan	Operational	Full participation	State Police	On-line	Complete conversion of manual files that are activated by an arrest
Pennsylvania	Manual system with plans for a computerized Master Name Index	Access to NCIC files, but do not contribute	Not applicable	Not applicable	Not applicable

*This table excludes those states visited which have not been involved in the CCH program: i.e., Rhode Island

**Operating agency refers to the organization responsible for the Crime Information Center (CIC) and the CCH system, while controlling agency refers to the organization running the computer facilities.

were consistent with those specified by SEARCH. These objectives have remained fairly consistent over the past decade and still provide guidance for CCH operations in Arizona.

Since inception, Arizona's CCH system has been under the direction of the State's Crime Information Center, a component of the Arizona Department of Public Safety. Between 1969 and 1973 development efforts were concentrated on planning and designing an on-line system, implementing both the software and hardware, improving the manual record keeping system, and coverting the manual records to machine-readable form. As an on-line system with data input, edit and retrieval capabilities, CCH began serving Arizona law enforcement officials during 1973. The Arizona CCH became the first system to interface in an on-line mode with the FBI's National Crime Information Center (NCIC) for the exchange of computerized criminal history records. Federal funding for the Arizona effort terminated in 1974, at which time the State assumed the operating costs of the system and institutionalized CCH.

During the implementation phase of CCH, Arizona officials had to confront and resolve several data problems. First, tying disposition data to original charges required both new paperwork and modifications in the flow of forms. In order to ensure the accuracy and completeness of the criminal history records, the state legislature passed a law mandating that arrest data be sent to the central repository and the State Supreme Court issued a parallel rule pertaining to disposition information. Second, data editing problems had to be solved before the manual files could be converted to machine-readable form. Finally, changes introduced by the FBI concerning participation in NCIC created problems in classifying crimes and coding the information for placement in both the state and national files. These problems were successfully resolved and system implementation was moved forward.

The CCH system entered its operational phase in 1973, and since that time has functioned fairly smoothly. Today, CCH is one of many components comprising the Arizona Criminal Justice Information System (others include Arizona Law Enforcement Telecommunications System, Uniform Crime Reporting, Law Enforcement-Judicial Information System, Arizona Department of Transportation--Motor Vehicle Division, and Offender-Based State Correctional Information System). Law enforcement officials have access to the CCH data base through computer-to-computer interface and via remote and mobile terminals. As presently structured, the CCH system contains five segments:

- the identification segment containing the unique identifiers of a particular individual, including fingerprints classification;
- the arrest segment containing information relating to each arrest experience of a particular offender including the date of offense, offense charged and arrest disposition;
- the prosecution segment including charge, date of arraignment, plea, filing date and, as appropriate, release action;
- the judicial segment including trial data, offense, and disposition; and
- the custodial segment containing custodial or supervisory information.

Much of this information is initially gathered by the Law Enforcement-Judicial Information System (an Arizona version of OBTS--Offender-Based Tracking and Statistics System) and then used as inputs for CCH.

Generally speaking, CCH operations in Arizona are in accordance with the Crime Information Center's basic plans. However, one specific problem has recently arisen: there is slippage in posting current data and placing it in the computerized files. This is reportedly due to a lack of funds needed to employ sufficient staff to completely process the daily influx of criminal history information. An important ramification of this slippage is that teletype

(TWX) inquiries often require a concurrent manual search of the master CCH name index. CCH representatives hope that this problem will be resolved satisfactorily in the near future, so as to maintain the underlying thrust of CCH as a system capable of providing law enforcement officials with "rapid" access to the latest information.

4.1.2 Florida

Like Arizona, Florida joined Project SEARCH in 1969 to develop a prototype CCH system. The objectives of this initial effort by Florida were parallel to those posited by Project SEARCH.

Since the initial development phase, Florida's CCH system has been under the direction of the Florida Crime Information Center (FCIC), a component of the Florida Department of Criminal Law Enforcement. The FCIC, as a central information repository, contains more information than just criminal history records; for example, Uniform Crime Report data, information on stolen vehicles, stolen and recovered guns, wanted persons, missing persons, and so on. The CCH records are disseminated to meet the daily operational needs of law enforcement officials and to assist criminal justice agencies in a number of areas, including:

- investigative functions,
- issuance of licenses,
- establishment of penalty class for multiple offenders,
- bail/bond hearings,
- pre-trial intervention hearings,
- sentencing with pre-sentence investigation, and
- risk classification for custody or supervision.

As a by-product, the system can also provide statistical reports and a data base for research purposes. Additionally, the CCH system can be used to provide specialized services, particularly identification assistance for unknown deceased, amnesia victims, etc., through an automated fingerprint search of the index.

Currently, the Florida CCH system incoporates the standard range of on-line capabilities, including data entry, inquiry, editing and retrieval. Police departments throughout the state have access to the data base via remote terminals, allowing for the timely and speedy exchange of criminal history information.

4.1.3 Georgia

In 1971, Georgia joined the second group of states to participate in the NCJISS-sponsored CCH program. Federal funds were used to support the development and operation of CCH from 1972 through 1977. Since that time, the state has picked up most of the cost associated with CCH. As a project of the Georgia Crime Information Center (GCIC), in the Georgia Department of Public Safety, CCH was initially envisioned as a state-level system that would allow the state police to respond in a timely fashion to requests by local police for information on criminal suspects. The objectives of the project paralleled those outlined by Project SEARCH.

Both the software development and hardware configuration of the Georgia CCH system were shaped by key political events. About the same time that Georgia joined the CCH program, the U.S. Attorney General placed the FBI in charge of the national CCH program under the auspices of its National Crime Information Center. Guidelines issued by the FBI concerning the type of data elements and structure of files that should be used in designing a state-level CCH system were incorporated into the Georgia plan and closely followed by GCIC in developing their CCH system.

Hardware configuration was basically shaped by a move for reorganization of the state government and centralization of various services. One consequence was the concentration of computer equipment and data processing activities under the control of the

Department of Administrative Services (DOAS). In order to accommodate this organizational structure and, at the same time set up a system that would accomplish their objectives, the GCIC was required to design and implement an off-line batch system.

Insofar as GCIC is concerned, the original organizational set up was less than satisfactory. DOAS control over the computer facilities is seen as a major impediment to the efficient and effective operation of CCH and has been the source of a long-term political power struggle between DOAS and GCIC. First, GCIC has to compete with other state organizations for the processing of priority jobs. Second, GCIC believes that in-house staff could do a better programming job than is being done by DOAS personnel. Third, sharing the computer facilities with non-law enforcement agencies gives rise to a number of potential privacy and security problems.

Use of the CCH system in the mid-1970's showed that initial expectations were somewhat off base. The anticipated high volume of requests for criminal history data by local police requiring quick turnaround never really materialized. CCH data were often limited in their usefulness for police investigations. Additionally, Georgia police relied primarily on the Law Enforcement Telecommunications System (LETS) for this type of data rather than using CCH. Instead, the greatest and most pressing need was exhibited by the courts and rehabilitative services for pre-sentence investigations and placement of offenders in diagnostic services or institutions. However, the requests for this data by the courts and rehabilitation services are rarely urgent. A typical situation usually allows for at least five days turnaround and can be done via the mail. This situation obviated the need for sending out detailed rap sheet information on-line, although the GCIC still sees the need for maintaining this on-line capability for sending out summary data by computer terminals

in response to any requests by local police. In order to accommodate this potential need, the off-line batch system was modified to permit on-line inquiries for summary rap sheet data.

The GCIC is currently in the process of converting its manual criminal record system to an automated one. This conversion process consists of three phases. Presently, when the GCIC receives a fingerprint card of an offender, the instant offense is entered on the automated system. If this offender has a prior criminal history record, that data is maintained in manual file. Current automated CCH records only contain information on arrests and dispositions made after "day-one" of system operation. The next step, yet to be implemented, is to make full historical conversions each time a new CCH record is created or when there is activity on an existing CCH record. The final step, to be performed as time permits, is to go back to the "day one" conversions and complete them by filling in the historical data detailing offenses committed in Georgia still stored in the manual files. Because of GCIC's concern about the possible impact of privacy and security regulations, the cost involved in converting records, and the accuracy of data obtained from other states, only offenses committed in Georgia will be included in the CCH files.

Responding to the perceived needs for dedicated computer facilities and for interface among criminal justice information systems, the GCIC has proposed major modifications to its CCH system. The plan, to be implemented during 1979 primarily with state funds, calls for the development of an automated Uniform Criminal Justice Information System. As presently envisioned, the Department of Public Safety will house and control the host computer. In turn, the host computer will be connected with the Department of Public Safety's mobile and satellite terminals throughout Georgia. This network will greatly enhance data base accessbility, allowing implementation of an on-line system to be

shared by the police with the Department of Offender Rehabilitation, the Courts and the Prosecutors. Each agency will control the data specific to their own needs and, when necessary, have the capability of accessing pertinent data stored in other segments of the data base. This, of course, will require a cross-index system based on common identification numbers. Linked together by identification data, much like a master name index, the segmented, shared data base will eliminate much duplication that would exist if each agency maintained its own comprehensive files.

4.1.4 Michigan

Prior to the development of CCH in the late 1960's, the Michigan State Police were part of a state-wide, computerized Law Enforcement Information Network (LEIN). This system provided on-line access to data bases such as warrants and stolen cars and offered direct linkage to a number of other agencies including the State Department of Motor Vehicles and the Detroit Police. In 1969, Michigan became involved in a pilot project under the guidance of SEARCH to develop a prototype CCH system. The objectives of the Michigan CCH effort were in line with those specified by Project SEARCH. These objectives have remained constant throughout the history of the CCH system in Michigan.

The initial CCH developed in Michigan consisted of a batch data entry system with on-line data inquiry, retrieval and exchange capabilities. Because of Michigan's experience with the automated LEIN system, that State was selected to maintain and operate the central index for the pilot project and facilitate the inter-state exchange of criminal history records. Each of the six participating states contributed 10,000 records to the central index and sent tapes to Michigan on a weekly basis to update the repository. With the completion of the pilot project and the U.S. Attorney General's

decision to place the FBI in charge of a national CCH repository, Michigan relinquished its responsibility for maintaining the central index.

Since that time, Michigan has continued to develop and refine their CCH system. Presently, CCH features a wide range of on-line capabilities, including data entry, inquiry, update, retrieval and exchange. About 300 of the police agencies in the state have direct access to the automated CCH data base. An additional 400 or so police departments have indirect access through specified hookups. In this situation, each police department is designated as a service agency (i.e., having a remote terminal with direct linkage to CCH) or a serviced agency (i.e., no terminal). For data access purposes as well as for privacy and security considerations, each serviced agency is assigned to a specific intermediary agency operating a remote terminal as part of the state-wide CCH network. In order to keep the files as up-to-date as possible, and add to the original 10,000 record data base, new cases are immediately entered into the automated system. The conversion of the remaining manual records is initiated only when a previous offender commits a new offense which is entered on the automated system. Michigan has maintained a working relationship with NCIC, providing the national repository with nightly, batch updates through telecommunication links.

4.1.5 Pennsylvania

Initial efforts to develop a computerized criminal history system began in Pennsylvania during September 1972, when the State Police received a $38,000 grant through Project SEARCH plus $17,000 from the State Planning Agency (SPA). The basic objectives of this project were the same as other CCH systems. Two courses of action were to be pursued in order to accomplish these objectives. First, a computer-based network linking state and local police was to be

completed. Second, the manual criminal history files maintained by the State Police were to be converted to a form amenable to automation. Work toward these ends continued through April 1974, with approximately 10,000 of the 1.3 million criminal history records converted by the time the funding had ended.

Paralleling this endeavor, the State Police also submitted two proposals to participate in the National Criminal Justice Information and Statistics Service's (NCJISS) Comprehensive Data Systems (CDS) program. The first proposal was rejected by the LEAA. The Pennsylvania SPA did not approve the second proposal, stating that it could not find adequate reasons for automating full criminal history records in Pennsylvania. The State Police, using their manual records and a network of approximately 250 terminals for transmitting this information, had already achieved an average turnaround time of about 15 minutes which was sufficient for their needs. Furthermore, they were already linked to a number of data banks: Uniform Crime Reports; Motor Vehicles; Warrants; Gun Registration; and the FBI's National Crime Information Center (NCIC).

Following that sequence of events, there were several changes in key personnel at the State Police headquarters involving persons responsible for the implementation and operation of information systems. This shift in assignments signaled a change in philosophy concerning the development of CCH in Pennsylvania. The feasibility of automating criminal history records was questioned. As seen from the perspective of the State Police, the automated system must be operational 24 hours a day in order to function properly. Because of assorted technical problems which are typically encountered with computer equipment leading to down-time, this 24-hour requirement would necessitate a back-up computer system which would be an expensive solution for maintaining around-the-clock, automated criminal history

record exchange capabilities. In a similar vein, converting manual records to a form suitable for automation was very costly, estimated to be $14.50 a record based on work performed during the original 1972 grant from SEARCH plus an inflation factor. Finally, the State Police are of the opinion that they will need a hard copy of their files (a primary example being the fingerprint card) for judicial purposes, especially for court actions in other jurisdictions. Therefore, they believe that they cannot dispose of their manual records, even if they automate their entire rap sheet file.

With all these factors in mind, the State Police recently decided to go another route and limit automation of rap sheets to the development of a Master Name Index. This file would contain the name and various identification-related data of all individuals processed by the criminal justice system in Pennsylvania. It would also specify date of arrest and whether the suspect should be considered dangerous. The basic objectives underlying the development of this index are twofold:

- provide the capability for identifying people in the criminal justice system; and
- improve the speed of transmitting reliable data to officers on the street concerning suspects.

Presently, the Master Name Index project is in the design phase, with a demonstration of the index created with data from the FBI's NCIC (about 180,000 records on Pennsylvanians) planned to determine its feasibility. If feasibility is shown, the State Police hope to be able to obtain the funding and equipment needed to have a master name index system up and operating sometime during 1980.

The State Police view the Master Name Index as the first building block of CCH. As such, they don't see that they have deviated that far from the original CCH concepts. In fact, they seem satisfied that a master name index is not only much less costly than a CCH

system, but also much better suited to their current and foreseeable needs. Further, by going the route they have selected, the State Police will be able, if need be in the future, expand their Master Name Index into a full-fledged CCH system complete with modules for data from other computerized information systems such as SJIS.

4.2 Offender-Based State Corrections Information System

Four of the states visited thus far have an operational OBSCIS: Arizona, Florida, Georgia and Michigan. Pennsylvania's correctional information system is still in the planning stage of development. See Table IV for a description of selected characteristics of OBSCIS in those states in which a system is operational.

4.2.1 Arizona

The Arizona Department of Corrections initiated development of an information system in 1971 with the support of LEAA funds. Over a period of several years, the Department designed and implemented an Adult Inmate Population Accounting System, a Community Services Caseload Management System, and a Juvenile Offender Based Tracking System. In 1974, Arizona received a federal grant to upgrade the capabilities of their initial information system by implementing OBSCIS and integrating this new system into the Arizona Criminal Justice Information System (ACJIS). Within this general context, the Arizona OBSCIS project had a number of objectives, all of which were in accordance with the purposes of the system as specified by SEARCH.

The Department of Corrections hired a contractor to design the OBSCIS hardware configuration, develop appropriate software packages and implement the system. As presently structured, the system may be described as follows. While the Department of Corrections has several remote terminals, the host computer is located in the

TABLE IV

SELECTED CHARACTERISTICS OF OBSCIS BY STATE*

State	Implementation Status of Computerized System	Operating/Controlling Agency**	Mode of System Operation	Applications
Arizona	Operational	Department of Corrections/Department of Public Safety	On-line and batch	Only Research and Planning.
Florida	Operational	Department of Corrections for probation and parole; Florida State University for prison.	On-line and batch	Six modules--Management and Research and National Reporting being developed. Probation Module added.
Georgia	Operational	Department of Offender Rehabilitation/Department of Administrative Services	On-line and batch	Eight modules
Michigan	Operational	Department of Corrections	In the process of converting from batch to on-line system	Seven modules--Management and Research Module being developed
Pennsylvania	System in planning stage	Not applicable	Not applicable	Not applicable

* This table excludes those states visited which have not been involved in the OBSCIS program: i.e., Rhode Island.

** Operating agency refers to the organization responsible for the OBSCIS system, while controlling agency refers to the organization running facilities.

Department of Public Safety and operated by that department. On-line operations are restricted to various inquiry applications such as those used to generate reports. In general, the system operates on a batch mode, with data entry performed only twice monthly. The correctional institutions send manual reports on inmates to the Department of Corrections where the data are key punched and periodically added to the OBSCIS data base. As a consequence, the information is often outdated and, therefore, less than reliable for offender tracking purpose and management decisionmaking needs. This lack of current data has restricted the use of OBSCIS. Thus far the use has been minimal, limited primarily to occasional research reports for management and ad hoc reports in response to specific requests.

In summary, implementation and operation of OBSCIS in Arizona is seen as less than successful. There are several reasons for this situation. First, there has been a lack of continuity among the persons involved with the OBSCIS project in terms of both contractor personnel and Department of Corrections staff. Second, on-line capabilities to generate summary reports are not available. Third, the software used to run the system and generate the reports is too complex, requires too much coding, is very difficult to modify and is largely undocumented. Finally, OBSCIS has been delegated to a low priority status by the current Director of Corrections who perceives other department projects as more important.

4.2.2 Florida

Prior to 1975, Florida's Department of Corrections was under the organizational umbrella of Health and Rehabilitation Services. Then, it was established as a separate organization and given responsibility for the supervision of offenders placed on probation or parole as well as those incarcerated. Florida's OBSCIS began functioning in 1977 and was designed as a management information system

for the Department of Corrections and can, as a byproduct, produce statistical information. Florida's OBSCIS was developed because of a felt need for "good" information on which to base correctional decisions. The information that did exist was considered inaccurate and out of date. It should be noted that the state legislature mandated the development of a correctional management information system.

OBSCIS was designed to capture data about those assigned to the custody of the Department of Corrections. It has been estimated that approximately 650 data elements are collected on each offender which include facts about the offender's precommittment history including information about the offense, demographic characteristics and criminal history record. In addition, OBSCIS also stores the following categories of information: sentence structure--sentence imposed, gain time--good time, movement, tentative expiration date and date of parole interview.

It is expected that by sometime in 1979, all the core elements specified in Project SEARCH OBSCIS documents will be collected and maintained. It was estimated that nearly 90% of these elements are now available for both those on probation and those incarcerated.

4.2.3 Georgia

During 1971, the Georgia Department of Offender Rehabilitation (DOOR) decided to take advantage of available state funds and develop an automated information system. As conceived, the system had two primary objectives; the objectives--to improve management and track inmates--are essentially the same as those specified by SEARCH.

During a reorganization and centralization of state government services, computer facilities were placed with the Department of

Administrative Services (DOAS). Given this constraint, DOOR designed and implemented a batch mode information system, using the DOAS's computer facilities to process the data. Local institutions manually collected the data and sent it to DOOR. DOOR then punched the information on cards and sent the card deck(s) to DOAS. Turnaround time took about a day. However, programming errors frequently aborted data analysis, resulting in a re-run of the process and an increase of at least 100 percent in turnaround time. Problems associated with fixed record length, batch mode input and lack of remote access rendered the system very inefficient.

When NCJISS initiated the OBSCIS program in 1974, Georgia received funding to participate in the first phase of development. DOOR's primary objective was to upgrade their current system. Overall, DOOR received three grants from NCJISS totalling approximately $675 thousand for OBSCIS development, implementation and operation. Just about all of these monies have been spent and the State of Georgia has started picking up the cost for personnel, computer service and other operational expenses.

As an original member of the OBSCIS group, Georgia had considerable input into the design of the basic model developed by SEARCH Group, Inc. However, because they already had an operational system, DOOR did not strictly adhere to the SEARCH model. DOOR developed what they consider to be their own version of OBSCIS, using as a foundation the already existing corrections information system and the constraints imposed by the centralization of computer facilities under control of the Department of Administrative Services. The basic model continues to operate as a central batch input system with data updates performed twice a week. The major modification has been the addition of on-line inquiry, editing and reporting capabilities via dial-up terminals. In terms of data elements and

application modules, DOOR's current version of OBSCIS is similar to that developed by SEARCH. All of the data elements suggested by SEARCH have been included; however, some of them are defined differently, based on the Georgia State offense code. Likewise, all eight OBSCIS application modules or their equivalent have been incorporated into the Georgia system. Additionally, DOOR has implemented a National Prisoner Statistic module and is presently in the initial stages of developing a Uniform Parole Reporting module.

The present OBSCIS model is used to generate a wide variety of standard and ad hoc reports dealing with inmate characteristics, prison population profiles and predictions, inmate transactions, recidivism rates, future budget estimates, and anticipated personnel needs. Ad hoc reports have become available since the expansion of the computer network to include dial-up terminals. In addition to DOOR, standard and ad hoc reports are used by a number of agencies for decision-making purposes including the Parole Commission, the Georgia Crime Information Center and the Department of Adminstrative Services.

4.2.4 Michigan

In 1972 the State of Michigan received an LEAA grant to conduct a study to assess the need for the development of a computerized information system for corrections. The study suggested that data collection efforts be expanded and the information be stored in an automated Corrections Management Information System (CMIS). State funds were used for these purposes as well as for converting historical data to machine readable form during 1974-75.

Michigan obtained an OBSCIS grant from NCJISS/LEAA in 1975-76 to develop CMIS more fully and to hire staff to produce the necessary software for the system. At the onset, it was recognized that there was a close relationship between CMIS and OBSCIS. While CMIS

had more data elements than OBSCIS, definitions of common elements did not always coincide with those specified by OBSCIS. This problem, also evident in other states, eventually led to the development of the national OBSCIS data dictionary. Within this general context, the OBSCIS project in Michigan was intended to address the objectives set by SEARCH. These objectives have remained constant and continue to be the focus of Michigan's OBSCIS project.

Built on the foundation provided by CMIS, the Offender-Based State Corrections Information System in Michigan was initially strutured as follows. Software was developed "in-house" by the Department of Corrections staff for seven of the eight modules designed by SEARCH (the exception being the research application). In terms of data flow, correctional institutions throughout the state are required to send source documents to the Department of Corrections in Lansing. The documents are reviewed for completeness by department staff and then sent to a designated state data processing center. In turn, the data processing center builds and maintains the OBSCIS data base, and generates required statistical reports. This arrangement requires that the Department of Corrections use a batch model system to operate OBSCIS.

Presently, the Michigan OBSCIS is being modified extensively. The Department of Corrections recently received permission from the state legislature to buy their own computer instead of leasing computer facilities and related services from the data processing center. A large mini-computer has just been installed at the Department of Corrections in Lansing to serve as the hub of the "new" system and to house the OBSCIS master data file. Later this year mini-computers will be placed in three of the 11 state correctional institutions. Linked to the main mini-computer, these regional computers will maintain data bases pertinent to their particular geographical area.

This result will be a split data base with some overlap. The shift in equipment will be accompanied by a conversion from a batch mode of operations to an on-line system with remote terminal access.

Once the new system is installed, long-term plans (two to three years) call for the development of addtional OBSCIS modules. These modules will concentrate on expanding research applications (e.g., risk prediction, placement of clients, etc.) and improving management decision-making capabilities (e.g., scheduling parole hearings, inmate accounting, business accounting, food services and so on). Federal block funds are committed for OBSCIS development in Michigan through 1979. The State has indicated that it will then begin to provide the monies required to operating the system.

4.2.5 Pennsylvania

In 1976, NCJISS let a grant to the Governor's Task Force on Criminal Justice Information Systems to develop a plan for the design and implementation of an Offender-Based State Corrections Information System. The system, as envisioned, is intended to serve the case tracking, management and administrative needs of both the Bureau of Corrections and the Board of Probation and Parole. Consequently, the objectives of this system differ somewhat from those established by SEARCH. More specifically, the basic objective of the Bureau of Corrections is to institute an automated computer system to:

- increase the effectiveness and efficiency of tracking offenders through the system.

Objectives for the Board of Probation and Parole are more diverse and include:

- improve management by providing pertinent information in a timely manner;
- provide concise data, including a weighting scheme to estimate the probability of recidivism, in the form of a summary report for probation and parole hearings;

- keep track of and maintain a balanced case mix for probation and parole caseworkers; and
- record and maintain an up-to-date accounting of referrals to and costs incurred from the Welfare Department.

At this time, the plan for the probation and parole segment of the OBSCIS system is complete, while work is nearly finished on the plan for the Corrections module.

The system being planned for Pennsylvania is considered to be very different from the original OBSCIS model developed by SEARCH Group, Inc. (SGI). As conceived, OBSCIS has eight modules aimed at assisting state corrections officials track offenders through the penal system. Of the eight modules, only one deals with probation and parole. This OBSCIS model and NCJISS emphasis do not coincide with the existing State needs, largely because there are a number of autonomous, local institutions in Pennsylvania. In order to institute a complete offender tracking system representatives believe it is necessary to integrate these non-state level institutions into the data collection system. Only in this way will the basic management and administrative needs of corrections officials be achieved. Additionally, Pennsylvania wants to place more emphasis on probation and parole applications.

4.3 State Judicial Information System

Some form of SJIS has been implemented and is operational in four of the six states visited: Florida, Michigan, Pennsylvania and Rhode Island. There was an attempt to implement SJIS projects in Arizona and Georgia, but those systems are not operational. See Table V for a summary of selected characteristic of the systems which have been implemented and are operational.

4.3.1 Florida

In Florida, approximately 85% of the case information is produced by about 12 counties. However, there are 55 other counties.

TABLE V

SELECTED CHARACTERISTICS OF SJIS BY STATE*

Characteristics / State	Implementation Status of Computerized Systems	Operating/ Controlling Agency	Mode of System Operation	Applications		Other Applications	Basis for System
				Case Flow Management	Information Reporting		
Florida	Operational, development continuing	Office of the State Court Administrator/ Division of Electronic Data Processing	On-line and batch	Criminal (Second Circuit)	Aggregate reporting by all circuits		An adaptation of PROMIS-based system
Michigan	Operational, development continuing	Office of the State Court Administrator	On-line and batch	Criminal, traffic, appellate juvenile, among others	Additional statistical reporting	Probate Court	Building own system tailored specifically to the needs of Michigan courts.
Pennsylvania	Partially operational, being modified	Administrative Office of the Pennsylvania Courts	Computer processing restricted to aggregate reports	Criminal			Exploring a variety of approaches to developing SJIS.
Rhode Island	Operational, development continuing	Office of the State Court Administrator/ State Data Processing Center.	Batch, moving to on-line	Criminal	Generalized Inquery Package; sentencing register for Superior and District Courts	Reports produced for police, State Attorney General, Corrections and other agencies	An adaptation of PROMIS

*This table excludes those states visited which are not currently involved in the SJIS program: i.e., Arizona and Georgia.

**Operating agency refers to the organization responsible for the SJIS program, while operating agency refers to the organization running the computer facilities.

Consequently, it was decided to develop the prototype SJIS in a circuit which was composed of small and medium type jurisdictions which are the most prevalent in the state. The basic goals of the prototype SJIS in Florida coincide with those set forth by SEARCH and have remained consistent throughout the project.

The SJIS project (JUSTIS) in Florida is based on a "bottoms up" approach. A prototype information system has been developed for the criminal courts of only the Second Circuit which consists of six counties accounting for five percent of the state-wide caseload: Franklin, Leon, Jefferson, Wakulla, Gadsden, and Liberty. It was felt that the "bottoms up" approach would pinpoint local court needs and problems which might be overlooked in a "top down" approach. Morever, it was feared that the "top down" approach might be interpreted as an infringement on the traditionally independent operation of local court systems. The decision to develop a prototype (or a "mini-SJIS") system was based on two considerations:

- the experience gained in developing, implementing and operating a prototype system would decrease costs in the design of a statewide system; and
- the prototype would serve to demonstrate the usefulness of SJIS in Florida.

In setting up this prototype system, the SJIS project sought to identify and adapt an operational court information system. It was felt that adapting such a system would be more cost-effective than developing one from "scratch," provided that the system was flexible enough to deal with the variance among local courts. The PROMIS system as modified and adopted for court use in Milwaukee, Wisconsin, was chosen to serve as the start-up system for the Second Circuit. The software was received in 1976 and modified to meet the specific needs of a multi-jurisdictional setting. A number of data elements addressing the needs of the local courts were added, e.g., reasons

for continuation of cases and identification of the county court system. Data gathering commenced in 1977. The office of the State Court Administrator is currently receiving aggregate statistics from the local courts in Florida. To date, Florida's efforts to develop an SJIS have centered on the case flow management subsystem, specifically the criminal module. While this module is being developed, attention will also be given to the appellate module.

4.3.2 Georgia

Georgia was one of 11 states to participate in the first round of federal funding for the development of State Judicial Information Systems. The project, which started in 1974 and continued through 1977, was placed under the direction of the Administrative Office of the Court, Georgia Judicial Council. Funding for SJIS development and implementation during this time frame totalled $400 thousand in Federal monies plus $75 thousand in state matching funds.

At the outset, the Georgia project staff felt that the national program was ill-defined and lacked necessary direction. They were not sure whether the program was intended to provide court administrators with information for management purposes or designed to supply CCH with required disposition data. Nevertheless, court officials decided that they wanted the funds. A basic SJIS plan was developed and approved by NCJISS. Specific details were amplified after the initiation of federal funding. The SJIS project's objectives focused on the improvement of management decisionmaking in line with the SEARCH model.

To accomplish these objectives, the Administrative Office of the Court designed and attempted to implement a model based on a bottoms-up approach. The overall model was comprised of three subsystems: (1) criminal; (2) civil; and (3) juvenile. Efforts to develop the

three subsystems were very uneven. The juvenile system was more or less ignored. By contrast, about three-fourths of the design work was completed for the civil subsystem. Of the three, only the criminal segment actually reached the implementation phase.

The criminal subsystem design divided the state into three applications: manual mail-in; on-line input; and a local system with its own computer facilities. After developing the necessary software, the Administrative Office implemented the first two applications as pilot programs in order to test the feasibility of the design. The pilot test of the manual application was conducted in the five-county Blue Ridge Judicial District and lasted less than one year. Albany, Georgia--the Dougherty Judicial Circuit--provided the site for the on-line pilot test of a system consisting of two terminals and a mini-computer. This site was operational for about one year.

In both cases, the pilot tests were less than successful and were terminated in September 1977. There were several reasons for this outcome. First, according to the Administrative Office, the CCH/OBTS data requirements demanded a bottoms-up approach. However, a top-down design would have been necessary to impose uniformity in Georgia because the judicial system is decentralized, comprised of 42 relatively independent circuits. Second, restrictions stipulated by federal grants prevented the Administrative Office from buying computer hardware needed to fully implement on-line operations. The equipment used during the pilot test had been leased, but Administrative Office staff did not view this as a satisfactory long-term arrangement. Third, SJIS was not seen as a high priority project by the Board of Directors of the Administrative Office. Therefore, the Judicial Council did not have the power base necessary to persuade the state legislature to appropriate additional funds to further implement and institutionalize SJIS.

4.3.3 Michigan

The development of the Michigan SJIS began in 1971 when the Michigan Supreme Court appointed a Procedures and Technology Committee to assess how modern information and computer technology might be applied to the courts. The Committee established a Special Industry Advisory Board consisting of representatives from Chrysler, Ford and General Motors Corporation.

The Michigan SJIS was developed to meet the operational needs of the courts in conjunction with the needs of other users in terms of the courts' information requirements. In this context, the Michigan SJIS might be best described as a series of systems designed to meet the information requirements of four different components of the courts system: juvenile, district, circuit and appellate.

According to its long range management plan, the purpose of the Michigan Judicial Data Center (SJIS) is to improve the administration of the court system in that state. Thus, the Center has established goals which paralleled these suggested by SEARCH.

To accomplish these goals, the Basic Michigan Court System (BMCS) was developed to serve the criminal case functions of the larger circuit courts. It is an on-line concept with emergency backup. It was designed in 1972 and first implemented in the Detroit Recorder's Court in 1973. The Detroit Recorder's Court, with responsibility for the city of Detroit, handles about 45 percent of all the felony cases in Michigan. BMCS is currently operational in several additional courts: Jackson Circuit and in the District Courts of Jackson and Ann Arbor. Among the other systems developed for the courts of Michigan are the following:

- the Annual Report II System - to provide the capability of gathering and reporting statistics for the district, circuit and municipal level courts;

- the Case Information Central System (CICS) which is designed to function in tandem with BMCS and produce caseload information;
- the Traffic and Ordinance System (TOCS) which processes state misdemeanors, traffic-related felonies, high misdemeanors and local parking, traffic and ordnance violations; and
- a Case Activity Reporting System (CARS) for the Circuit Courts and another for the district courts.

In addition to these systems, Michigan SJIS also has a District Court Advanced System, a Probate Court Rule System, a Probate Court Advanced System and, in the area of juvenile justice, the Child Care and Placement Information System (CCPIS). A replacement for CCPIS is being developed. Finally, a Court of Appeals Project will be implemented in modules as it is developed.

The Judicial Center uses both batch and on-line processing depending on the information requirements placed on the various systems. For example, CARS uses batch processing while all of the Advanced Systems (including BMCS) use on-line processing.

Of all the SJIS systems visited to date, the Michigan SJIS appears to be the most advanced, not only in terms of system technology, but also in terms of the extent of its operations in support of all levels of Court activities. In addition, the Michigan SJIS seems to be planning services (e.g., court rule index) which are more comprehensive than those called for in the SEARCH literature.

4.3.4 Pennsylvania

The Administrative Office of Pennsylvania Courts, created in 1968 in an effort to unify the trial courts that had previously operated as autonomous local entities, is the administrative arm of the Sate Supreme Court. Among its other functions, the Administrative Office is empowered to improve the court system by

introducing new and modern techniques and concepts into the judiciary for more effective and efficient court administration. In this vein, the Administrative Office initiated a manual data collection effort in the mid-1970's with forms being filled out at the county level by the Common Pleas Courts and the District Justice Courts. Local interest in participating in this data gathering effort was minimal, at best.

Despite the apparent lack of interest, this initial data collection effort was important in the sense that it provided the Administrative Office with an impetus for automating the process and seeking participation in the NCJISS-sponsored State Judicial Information System. The goals of the Pennsylvania SJIS were similar to those developed by SEARCH. To achieve these ends, the proposed SJIS was to be developed along the following lines. The Administrative Office would design a local standardized reporting system for counties who couldn't afford such a system on their own. Three to four regional computer centers would be established in order to provide on-line, day-to-day data processing services to these counties.

During the wait for the release of SJIS funds, the Administrative Office attempted to lay the groundwork for their proposed project and, perhaps more importantly, developed a Docket Transfer Form to accompany each criminal case through the courts. This form is designed to capture statistical information needed to effectively manage the courts and to provide the police with disposition data required by CCH. Presently the Docket Transfer Form is being utilized by Allegheny and Philadelphia counties and it is anticipated that the form eventually will be used by the entire state.

Unfortunately, the proposed SJIS approach has proven to be unfeasible. First, the court system is not yet unified, resulting in a traditional state versus county confrontation over control of funds.

Second, there exists a great diversity among counties in Pennsylvania, ranging from the very urban to the very rural. Third, Philadelphia is very different than the rest of the state in that it has a home-rule charter, has the largest caseload and is the only first class county in the state. Finally, the Administrative Office ran into funding problems at the state level in February 1977. As a result, the Office did not begin to spend SJIS funds until September 1977.

At this time, the Administrative Office is still using funds from the first SJIS grant. They have also developed and filed a proposal for a second grant. The orientation of the second proposal for SJIS reflects the groundwork laid and experience gained during the initial grant as well as recent advances in the state-of-the-art of criminal justice information systems. As its basic objective, the second grant proposes to continue development of SJIS in order to provide the Court Administration with the information needed to manage the courts in an efficient and effective fashion in accordance with the rules of Judicial Administration and other requirements issued by the Supreme Court of Pennsylvania.

To achieve this goal, the Administrative Office intends to use SJIS to develop a loosely coupled distributed network, with mini- or maxi-computers located throughout the state in order to provide designated court personnel with easy access. Since data stored in the SJIS file may be needed by any court, the state will provide the necessary message switching system. In turn, the county-based court systems will be required to furnish information for the basic data base. The courts will also be able to add to the system any additional data they may desire to store and maintain. In terms of the basic data base, the Administrative Office wants to develop a total management information system including data on such diverse areas as caseloads, personnel and finances. While automation will be the

central goal, it is anticipated that some of the more rural areas may continue to use a manual approach, and the State will transform the data to machine-readable form and input it into the computer.

Additionally, the Administrative Office is planning to experiment with mini/maxi-PROMIS to determine its feasibility as the building block for SJIS. This pilot project, to be implemented in Montgomery County, will concentrate on tailoring the PROMIS software to perform the SJIS functions as defined by NCJISS and by the needs of the Administrative Office.

In addition to automating the Docket Transfer Form data collection system and designing, implementing and monitoring the Mini-PROMIS project, the Administrative Office hopes to initiate several other tasks in the near future. Key among these tasks are:

- work with representatives of other agencies (especially the State Police and the Governor's Task Force) to define CCH data needs and develop a Dictionary of Terminology;
- develop an automated data collection system for the appellate courts; and
- develop an automated civil case control system in order to monitor caseloads to ascertain whether or not they need more judges.

4.3.5 Rhode Island

The Rhode Island SJIS is located in the Office of the State Court Administrator, Supreme Court of Rhode Island. This SJIS is a statewide system based on a PROMIS system previously adapted by the State Attorney General's office. The State Attorney General began using the "batch type" PROMIS system in 1974. Toward the beginning of 1977, the State Supreme Court assumed responsibility for the management and future development of PROMIS. It appears that the use of PROMIS was discontinued by the State Attorney General's

Office because of a lack of interest after a change in administrations. PROMIS was picked up by the courts because a need was seen for such a system. Interestingly enough, the use of data processing by criminal justice agencies in Rhode Island began in the courts, unlike many other states where police agencies were the first criminal justice agencies to use modern data processing techniques.

The SJIS system still operates in a batch mode, but the staff is developing the capacity for a statewide, on-line system which is expected to be operational sometime in the second quarter of 1979. SJIS focuses on the criminal module of the case flow management subsystem. The Rhode Island SJIS/PROMIS is really an extension of a PROMIS system using a sentencing subsystem and a lower court subsystem. Modifications were made in the editing and programming of PROMIS to meet the requirements of Rhode Island's courts.

In this system the flow of information on a case begins once a charge is filed. (The system does not track misdemeanors.) The police complete their portion of a case entry form and then forward it to the appropriate State Attorney General's Office for completion. Various court agencies file other data as required, e.g., the court clerk and the scheduling office.

SJIS commenced operations in Providence, R.I., because it is the largest jurisdiction in the state. Consequently, data collection was based on the information requirements/needs of Providence. SJIS's coverage was thereafter broadened to meet the needs of other jurisdictions.

The State Court Administrator's primary objective has been to develop a statewide information system designed to supply timely and accurate information to meet decisionmaking needs. As a by product, the system has the capacity to produce statistical information

and serve as resource for research. Toward these objectives, Rhode Island collects data on every case regarding every count, on offender demographics and on victim/witness information as available; limited prior record information is also collected if dispositions are available. In addition to being able to provide the reports produced by INSLAW'S PROMIS system, (e.g., the Generalized Inquiry Package), SJIS produces a sentencing register for both the District and Superior Courts (this register is a statutory requirement) as well as reports for police agencies, the State Attorney General and Corrections among others.

4.4 Prosecutor's Management Information System

Of the six states visited to date, PROMIS is operational either in the prosecutor's office or in the courts in four states: Florida, Georgia, Michigan and Rhode Island. In Florida and Rhode Island, a PROMIS system has been adapted to serve the information requirements of court systems. In Georgia, PROMIS is serving the District Attorney's Office of Cobb County (Marietta), Georgia, and also provides the court with several services such as the maintenance of the court calendar. In Michigan, the Prosecuting Attorney's Office in Kalamazoo County is using PROMIS, whereas in Wayne County, the system was implemented but is not currently operational because of a lack of funds. In addition, the Prosecuting Attorney's Association of Michigan has received federal funds to develop and implement PROMIS in several selected counties in Michigan.

4.4.1 Cobb County (Marietta), Georgia

In 1975, the District Attorney (D.A.) in Cobb County implemented a PROMIS system whose initial objectives coincided with those specified by INSLAW. By 1977 the system was completely implemented, but

its output was not being used. There were a number of reasons for this situation. As originally developed by INSLAW, the PROMIS package was designed for an IBM system using card input. However, Marietta had a Burroughs computer. The PROMIS software and procedures were, to some degree, incompatible with the Burroughs equipment. Exacerbating this problem was the absence of guidelines detailing system use as well as D.A. expectations regarding PROMIS. Data input was performed by assistant D.A.'s because there were no data entry clerks. Although information was being entered into the system, the output data were not being analyzed or used in spite of a perceived need.

In 1977, a new D.A. was elected in Cobb County. His initial decision was to terminate PROMIS based on his assessment that the system did not sufficiently address his operational objectives, which were to:

- improve caseload management;
- provide monthly statistics in order to develop office policy regarding use of discretion in case handling;
- produce court calendars and subpoenas, and
- track cases to ensure that they are brought to trial within the time limits set by speedy trial laws. (It should be noted that these are, in fact, very similar to those set forth by INSLAW.)

However, the D.A. changed that decision when INSLAW agreed to modify PROMIS to meet his objectives and meet the requirements of the Burroughs hardware. INSLAW modified the PROMIS system to address local requirements, rewrote the PROMIS software, condensed the information collection forms, and helped the D.A. gather support from the sheriff, judges and other members of the criminal justice community who would be the primary data providers as well as the secondary data users.

The resulting system may be described as follows. Five remote terminals--three for data entry and two for data entry/inquiry--are linked to the county's Burroughs computer. The Sheriff's Department and the Court each have a data entry terminal, while the three remaining terminals are housed in the D.A.'s office. Presently, the system operates in a batch, on-line mode, but should be modified in the near future to a full on-line, real-time system. Each of the departments in the PROMIS network is responsible for providing the system with specific data, most of which they would collect in any event. For example, the Sheriff enters the police department identification number and pertinent arrest data, while the clerk of the court supplies indictment and disposition information. In return, the Sheriff and Court receive a host of reports including preliminary, arraignment and trial calendars, and annual statistical summaries. The D.A., in addition to the above, receives management statistical reports dealing with case processing and effects of office policy on a monthly basis.

The D.A. sees PROMIS continuing along its present course as long as he's in office. He would like to expand the system's capabilities and develop programs to: (1) notify victims and witnesses of impending court appearances via mail; and (2) pinpoint major cases based on specific variables (as opposed to prioritizing cases, an existing capability).

4.4.2 Kalamazoo County, Michigan

The Office of the Prosecuting Attorney in Kalamazoo County began operation of PROMIS as a batch system mode in 1977. PROMIS was implemented because the Prosecuting Attorney was of the opinion that the application of computer technology would help alleviate the management problem created by large caseloads.

This PROMIS system was modified to meet the specific needs of Kalamazoo. It does not utilize case weighting procedures in terms of offense and offender scores. Instead, it focuses on such functions as providing management information, responding to some inqueries concerning witnesses, generating subpoenas and identifying offenders for the Career Criminal Program.

The Kalamazoo PROMIS software provides for all the PROMIS data elements, but not all of these elements are collected/used. A version of mini-PROMIS is currently being tailored to the needs of the prosecutor's office. It is expected that the new system will be ready for implementation early in 1979. Then, both the batch system and the mini-PROMIS will operate in parallel basis until any problems with the mini-computer version are identified and resolved. At that juncture, the batch system will be discontinued and mini-PROMIS will be used exclusively as the Prosecuting Attorney's management information system.

In Kalamazoo, there appears to be some movement toward the utilization of the PROMIS system as a local criminal justice information system. A board has been formed consisting of representatives of the sheriff's department, the Kalamazoo police and the court system of the 8th Circuit. Meetings have been held to brief these individuals regarding the development of a PROMIS system by the prosecutor's office. It would appear that once the mini-version of PROMIS is operational, the system could be used by any of the local criminal justice agencies provided that they supply the required data.

4.4.3 Wayne County, Michigan

Wayne County includes the City of Detroit within its jurisdiction. It has been estimated that the City of Detroit produces 45% of the criminal cases in the State of Michigan

of the batch PROMIS was implemented in Wayne County in 1976. The primary goal of this system was to provide management information to the prosecutor, mainly producing aggregate statistical reports and information about individual cases. Recently, the system ceased to operate because of lack of funds. However, the Prosecutor's Office is striving to produce at least some aggregated reports by a manual system. It is hoped that the State of Michigan's implementation of PROMIS in selected counties will provide financial support for PROMIS in Wayne County. If so, plans are to develop and implement a mini-computer version of PROMIS.

When PROMIS was operational in the Prosecutor's Office, there was some exchange of information with the Detroit Recorder's Court which has responsibility for the City of Detroit. But beyond this the Prosecutor's Office has had discussions with the Detroit Recorder's Court and the Wayne County Circuit Court regarding the possibility of extending PROMIS to both court systems. According to the Prosecutor's Office the reason for this is that while there are differences in some of the functions of the three organizations, they all use basically the same information, at least in the area of criminal cases. It was felt that such an extension could save money which is a key consideration in a time of decreasing revenues.

4.4.4 The State of Michigan's PROMIS Project

In October 1978, LEAA/NCJISS awarded a grant to the Prosecuting Attorney's Association of Michigan (PAAM) to implement a mini-PROMIS in selected counties. It is anticipated that this task will be accomplished in two years. Eight of the most heavily populated counties in the state have been selected as sites for implementation. Each site will have an on-line, real time system using a mini-computer. Long range plans focus on developing regional centers for less populous counties.

4.5 The Utilization of Criminal Justice Information Systems

Thus far in this project, MITRE staff have visited 17 different information systems in six different states. Each system was designed and implemented to meet the specific information requirements of a particular criminal justice agency. Criminal justice professionals stressed that unless system models were tailored to meet agency needs and available resources, they would be neither used nor institutionalized. Consequently, there has been considerable variations in both the degree of implementation and the operational status of the suggested models of CCH, OBSCIS, SJIS and PROMIS. This section highlights the utilization of information systems by each of the criminal justice agencies visited to date.

CCH systems have been implemented and are operating in four of the six states visited to date--Arizona, Florida, Georgia and Michigan. These systems are used to collect, maintain and disseminate detailed CHRI for a wide variety of purposes, e.g., police investigations, presentence investigation reports and inmate classification. The State of Pennsylvania explored the possibility of developing a CCH system, but because of technical difficulties and financial constraints, has decided to implement a Master Name Index. This index would contain only the name and identification data of all individuals processed through the criminal justice system in Pennsylvania, the data of their arrest and an indication of whether they should be considered dangerous. While the CCH systems in Arizona, Florida and Michigan have both access to the NCIC and contribute CHRI to it, the systems in Georgia and Pennsylvania have only access to the CHRI contained in the NCIC.

OBSCIS is operational in four of the states visited: Arizona, Florida, Georgia and Michigan. All of these systems are considered to be management information systems designed to provide correctional

officials with the data needed to make day-to-day decisions and formulate policy. In Pennsylvania, the OBSCIS system is in the planning stage. In those states which have implemented OBSCIS, the number of operational OBSCIS modules (or applications) recommended by SEARCH varies from system to system.

- Arizona--Research and Planning Module
- Florida--Admissions, Assessment, Parole, Movement Status and Legal Status Modules. A Probation Module has been added to meet Florida's specific needs.
- Georgia--Admissions, Assessment, Parole, Movement Status, Legal Status, Management and Research, and National Reporting Modules.
- Michigan--Admissions, Assessment, Parole, Movement Status, Legal Status, and National Reporting Modules.

Of the states visited to date, four--Florida, Michigan, Pennsylvania and Rhode Island--have implemented and are operating an SJIS system. These systems were developed to provide management information to state court administrators. Florida, Pennsylvania and Rhode Island have concentrated on the Criminal Module of the Case Flow Management Subsystem. Michigan has developed a variety of subsystems designed to meet the information requirements of the state court administration.

Thus far, two operational PROMIS systems serving local district attorneys have been visited--one in Cobb County, Georgia, the other in Kalamazoo, Michigan. Both of these systems are used to provide management information to prosecutors.

An indication of the variability in the extent of implementation and operational status of the four systems is presented in Table VI.

TABLE VI

A SUMMARY OF THE
UTILIZATION OF CRIMINAL JUSTICE
INFORMATION SYSTEMS

System / State	Service Provided by CCH System	Applications of OBSCIS	Applications of SJIS	Uses of PROMIS
Arizona	Collects, maintains and disseminates CHRI	One module[1]		
Florida	"	Six modules[2]	Criminal Case Flow Management[4]	
Georgia	"	Eight modules		Day-to-day management and administration
Michigan	"	Seven modules[3]	Criminal, traffic, appellate juvenile among other systems	Day-to-day management and administration
Pennsylvania	Master Name Index	System in planning stage	Criminal Case Flow Management	
Rhode Island			Criminal Case Flow Management[5]	

[1]Management and Research Module.

[2]Management and Research and National Reporting Modules being developed. Florida OBSCIS has added a Probation Module.

[3]Management and Research Module being developed.

[4]An adaptation of a PROMIS-based system.

[5]An adaptation of PROMIS.

5.0 PRIVACY AND SECURITY CONSIDERATIONS

As early as 1967, the President's Commission of Law Enforcement and Administration of Justice emphasized the need for ensuring the privacy and security of the data contained in criminal justice information systems.[21] Privacy was defined as the protection of the interests of those individuals whose names appear in the context of a criminal justice information system data base; security, as the physical protection of the system and the data base it contains from accidental or intentional loss or modification. In spite of this early recognition, specific recommendations for ensuring privacy and security were not developed until 1972.

At that time, Project SEARCH, in its role as system developer of CCH, OBSCIS and SJIS, suggested a number of measures that could be implemented in order to protect the rights of individuals and safeguard the data files of those systems. These actions included restricting access and dissemination to a "need-to-know" or "right-to-know" basis, limiting the scope of information that may be contained in the file, allowing individuals the right to review their file, instituting procedures to ensure data accuracy and completeness, and incorporating features into the design of the system and surrounding environment such as guards, keys, badges, passwords or keywords, and similar controls in order to ensure physical security of the information system.[22] It must be remembered, however, that these steps were only recommendations and the state developing such information systems were not bound to implement any of these suggestions.

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[21] Science and Technology, pp. 74-76.

[22] SEARCH, Security and Privacy Considerations in Criminal History Information Systems, Technical Report No. 2, Sacramento, California, July, 1972.

In 1975, the United States Department of Justice issued regulations requiring that criminal justice information systems funded by LEAA implement procedures designed to guarantee the privacy and security of criminal history record information (CHRI) contained in those systems. These regulations, as amended in 1976, require that the States:

- develop and implement procedures to ensure the completeness and accuracy of CHRI;
- impose constraints on the dissemination of data maintained in those information systems affected by the regulations;
- adopt audit procedures designed to ensure completeness and verify accuracy;
- ensure the right of individual access, review and challenge of data; and
- develop and implement personnel and physical security measures.[23]

At the same time some State legislatures have been moving to enact legislation in the area of privacy and security.[24]

The LEAA provided financial support to most of the CCH, OBSCIS and SJIS systems operating in the six states visited to date prior to or, at least, concurrent with the promulgation and amendment of the privacy and security regulations. System development and implementation was frequently already underway when the privacy and security requirements were being established. For instance, the original version of the PROMIS systems had been developed prior to the issuance of the LEAA regulations and several local implementations occurred about the time the amended regulations were promulgated.

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[23] Privacy and Security Planning Instructions, Washington, D.C.; U.S. Government Printing Office, April 1976.

[24] For example, the legislatures in Michigan and Florida have enacted "sunshine" legislation. The State of Massachussets has passed its own privacy and security laws.

Given this situation, it is not surprising that the preliminary review of CCH, OBSCIS, SJIS and PROMIS in six states indicates that the federal privacy and security regulations have had little, if any, direct impact on the design of those systems.

While it appears that all systems have instituted some measures to protect the data maintained in their files, these measures may not be the direct result of compliance with the federal regulations. Rather, they may simply represent general physical and personnel security measures instituted by criminal justice agencies to protect sensitive installations and/or data. In any event, typical among these procedures are personnel screening, security officer checks, keyword access to data bases, controlled access to terminals, and some control over dissemination. Such measures are generally in line with initiatives taken to secure any computerized data base. By contrast, it appears that less attention has been given to implementation of safeguards to ensure the privacy of the individuals whose names are contained in these systems.

The extent to which procedures have been implemented following the issuance of the LEAA regulations to provide additional safeguards appears to be related to perceptions about the degree to which each system is actually affected by the LEAA regulations. State/local interpretations of the definition of CHRI seem to be the major factor affecting responses to the privacy and security regulations and the concomitant implementation of procedures to achieve compliance with the regulations. In cases where privacy and security regulations are perceived to have a direct impact, appropriate measures have been implemented. For example, coordinating councils have been established in Florida, Georgia, and Pennsylvania to deal with the issues of privacy and security and to suggest appropriate measures for compliance. Similarly, some systems which use non-dedicated

facilities have felt the need to require contractor-user agreements. In Florida, Georgia and Michigan procedures have been established to allow individuals access to their files to review the contents, note errors and institute corrective measures.

It is generally acknowledged by persons involved in operating these computerized information systems that CCH contains criminal history record information (as defined in the regulations) and is, therefore, subject to the requirements of the security regulations. However, perceptions concerning OBSCIS, SJIS and to some extent PROMIS, are often quite the opposite.[25] Furthermore, in the case of SJIS, and to some degree PROMIS, the data in the files are considered to be legally discoverable and/or in the public domain. In many respects this situation is related to the apparent inherent conflict between privacy and security regulations and freedom of information laws or "sunshine" legislation.

Thus, the greatest impact of the regulations has been on the design and operation of CCH (as a central repository of CHRI), with much less influence on the development of the three other systems. Whether this situation will change remains to be seen. In more than a few instances, the systems have not yet achieved full operational status to really confront various privacy and security requirements such as file review procedures, data audits, and completeness and accuracy checks. The precise nature of the impact of the regulations on these systems in the future is unclear, as system directors are concerned that full implementation of compliance mechanisms such as file review procedures and data audits will be costly and, as a consequence, have unexpected ramifications and perhaps inhibiting affects on future system development and operations.

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[25] The federal privacy and security regulations as amended exempt all court records maintained for the purpose of recording process and results of public court proceedings such as court registers and case files.

6.0 INTERFACE CONSIDERATIONS

For the purpose of this report, interface is defined as the exchange of data among criminal justice information systems. Interface may take several forms, for example, computer-to-computer, the exchange of data tapes, or the transfer of hardcopy printouts. The flow of data can occur horizontally across local criminal justice information systems, e.g., from police to prosecution to courts and to corrections. The flow of data can also follow the hierarchical structure of individual criminal justice functional components. For example, data originating in a local trial court might be sent to a regional data gathering center and from there to a central state court administrator's office and finally to a state-level CCH system. The interface of criminal justice information systems is intended to achieve three major objectives:

- maintain comprehensive criminal history records
- reduce redundancies in terms of data collection, storage and analysis, and
- promote the timely exchange of accurate data among agencies

While the purposes of the last two objectives are self explanatory, the purpose of the first objective seems to require some elaboration. The collection and maintenance of complete CHRI is intended to protect individuals against decisions made on the basis of information which may be invalid, incomplete or outdated such as arrest records without indication of case disposition.

While CCH, OBSCIS, SJIS and PROMIS have been operating for a number of years, the issue of interface has not yet been addressed in a systematic fashion. The following sections discuss the role of interface in the development of these four systems. Among the aspects examined are: the nature and extent of interface achieved; problems encountered which hinder interface and solutions attempted

to overcome these difficulties and promote interface; and the present technological character of interface.

6.1 Extent and Nature of Interface

As originally envisioned, CCH, OBSCIS and SJIS would function as interlocking systems capable of exchanging the information contained in their data banks in a rapid manner. Linked by common data elements, namely identification numbers, OBSCIS and SJIS would serve as the corrections and judicial modules respectively of the Computerized Criminal History records information system. While PROMIS was developed in a different environment, its data element structure was designed to provide numerous "hooks" that could be used to link PROMIS with other information systems. Further, recent developments in mini-computer technology and software programming have given PROMIS greater flexibility and may allow it to serve as the software for State Judicial Information Systems.

The extent of interface achieved among the four systems is somewhat limited thus far. (For a summary of interface among the systems, see Table VII.) In terms of data flow and storage, CCH is the cornerstone of system interface. Where interface has been accomplished, it can typically be characterized as a one-way flow of data from OBSCIS and/or SJIS to CCH. Such is the case in Florida, Georgia and Michigan. Conversely, interface is absent in Pennyslvania and Rhode Island--states which lack a CCH system. In cases where PROMIS is used as a prosecutor's information system (Georgia and Michigan), interface with the other three systems has not been achieved. However, when PROMIS is used as the software for SJIS, as in the case of Florida, the potential for interface appears to increase. This is because SJIS is expressly intended to interface with other computerized criminal justice information systems.

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1 OF 2

TABLE VII

CURRENT INTERFACE AMONG THE FOUR INFORMATION SYSTEMS BY STATE

	SYSTEM			
STATE	CCH	OBSCIS	SJIS	PROMIS
Arizona	No Interface	No Interface	No System	No System
Florida	Indirect Terminal Access to OBSCIS*	Tape to CCH	Developing Common Computer System With OBSCIS	No System
Georgia	Hardcopy to OBSCIS*	Hardcopy to CCH, Planning To Go To Tape	No System	No Interface
Michigan	No Interface	Hardcopy to CCH*	Tape to OBSCIS	No Interface
Pennsylvania	No Interface	No System	Hardcopy to Manual CCH, Preparing to go to Tape	No System
Rhode Island	No System	No System	No Interface	No System

*Agency-to-agency interface as opposed to system-to-system interface.

Where interface exists, the exchange of data is usually accomplished by one agency sending another agency a hardcopy printout. As systems become more sophisticated, there is a trend toward using tape to transmit information among systems and agencies. The primary advantage of this mode of exchange is that tape allows for a much more efficient data sorting and posting process by the recipient agency than does the more cumbersome hardcopy. Additionally, Florida has begun to delve into the possibility of sharing computer facilities and interfacing directly through a shared hardware system.

The linkage of files dealing with specific individuals is typically accomplished through common data elements, primarily various types of identification numbers such as a state identification number, an offense tracking number. The finger-print card is also frequently used to establish linkage between systems and to verify that the data are entered in the proper file.

6.2 Problems and Solutions

Establishing multi-system interface has not been an easy task. Developers, implementers and users attempting to link systems have had to confront a number of basic problems, some of which appear to be more susceptible to practical solutions than others. These problems may be placed into three basic categories:

- present status of systems
- commonality of data element definitions, and
- intra- and inter-system integration

The relative success achieved in surmounting these difficulties will, to a significant degree, govern the extent and nature of multi-system interface to be achieved over the next several years.

It is a prerequisite to interface that a sufficient number of individual systems--at least two, by definition--be operational. Thus, a primary obstacle to establishing interface has been the uneven development and status of the various computer systems within a particular geographical area. Interface is a moot point in states such as Pennsylvania and Rhode Island where only one system is operational. A similar situation exists in states lacking a true CCH system (once again, Pennsylvania and Rhode Island), since CCH is designed to serve as the cornerstone of an interlocking, comprehensive criminal justice data bank which also includes OBSCIS and SJIS.

A second problem concerns differences among systems with regard to the definitions attached to common data elements. Commonalities among systems, particularly in terms of data elements, are intended to serve as "hooks" in order to provide a basis for the aggregation of information into criminal history records. Despite some concern on the national level for the establishment of multi-system interface, the current approach appears to encourage the developers/implementers to define the data elements comprising each individual system in accordance with the substantive context of their own agency or jurisdiction (for example, the police, corrections, courts, or prosecutor's office). The resulting differences in definitions of common data elements from one system to another produce incompatabilities, inhibiting multi-system interface. To counter this problem, coordinating councils or similar groups, comprised of representatives drawn from the primary components of the criminal justice system, have been formed in at least several states including, Florida, Georgia and Pennsylvania. Among other tasks, these groups have been charged with establishing common definitions for like data elements, making sure that the proper linkages are incorporated into the basic design of each system, reviewing data collection forms,

suggesting modifications to these forms where appropriate in order to provide a mechanism for gathering the necessary information in the proper format, and setting in motion the flow of data among agencies.

The third major obstacle to interface concerns both intra- and inter-system integration. Intra-system conflicts hinder development of individual systems and, therefore, inhibit interface among systems. This problem is especially evident in states such as Georgia with court systems comprised of numerous, relatively independent jurisdictions. Power struggles among various cliques contributed to the termination of SJIS in Georgia. Additionally, the absence of a unified court system has hampered efforts by the state police to gather disposition data for their CCH system, since each of the 42 judicial circuits has to be dealt with individually. In a similar vein, already operating, locally-based, computerized criminal justice information systems sometimes conflict with state-wide efforts. For example, in Florida, the Dade County court information system may pose problems for the state-wide SJIS in terms of the types of data gathered, the definitions attached to the data elements and the format of the computerized files. This problem may be exacerbated in the future by the burgeoning of local computerized criminal justice systems utilizing PROMIS, but adopting the software package to meet local needs. While many of the data elements contained in PROMIS and SJIS have matching titles, modification of PROMIS for use at the local level may certainly impact on the content and meaning of at least some of the data elements. As a consequence, data elements contained in the locally-based system may be incongruous with similarly labeleed data elements collected by other systems. These intra- and inter-system conflicts suggest the need for closer coordination between local and state system developers through a task force or similar type group empowered by the state

legislature or governor to coordinate computerized information at both state and local levels and to promote both intra- and inter-system interface.

6.3 The Technological Character of Interface

Overall, considerations of interface have not played a major role in the design, implementation and operation of CCH, OBSCIS, SJIS or PROMIS at the state or local levels. Each system appears to have been developed more in isolation than in concert with other computerized criminal justice information systems. The primary emphasis thus far has been to implement a system fashioned to serve specific agency needs. For example, OBSCIS, SJIS and PROMIS systems appear to have been implemented by the states. For the primary purpose of meeting the management information needs of corrections, court administrators and prosecutors. CCH systems have been implemented to meet the substantive criminal history record needs of various criminal justice agencies. Interface with other systems has been relegated to a secondary concern. Further, the uneven development of the four systems in some states has made interface a moot consideration at this time.

At the beginning of this chapter interface was defined as the exchange of data among information systems. The exchange of information may take one of several forms: (1) hardcopy printout; (2) tape; or (3) computer-to-computer. In most situations where interface exists, data are exchanged by sending printouts from one agency to another. This form of interface may be characterized as linkage between agencies rather than interface among automated information systems. As previously shown in Table VII, multi-system interface based on tapes or computer-to-computer communications is apparently not wide-spread. Among the six states surveyed thus far, evidence of tape interface is limited to a few applications in

Florida, Georgia and Michigan. Presently, there are no examples of computer-to-computer interface among the systems reviewed. There is, however, movement in Florida to develop shared computer facilities between OBSCIS and SJIS. This will result in computer-based interface between these two systems.

There are indications that the exchange of tapes between systems to achieve interface is spreading and will become more prevalent in the future. It is much less clear whether there will be a trend toward the establishment of direct computer-to-computer interface among these systems, at least in the near future. There are, however, signs that there may be a trend toward agencies implementing shared computer facilities and using this direct link to exchange information and thus achieve interface between systems.

7.0 PRELIMINARY OBSERVATIONS

The initial review of the evolution of CCH, OBSCIS, SJIS and PROMIS in six states suggests several preliminary observations concerned with system goals and objectives, the system development process, state and local support for these systems, the influence of privacy and security regulations, and the achievement of system interface.

7.1 Summary of Findings

7.1.1 Goals and objectives

- The goals and objectives of the four systems are generally in line with those specified by system developers.
- However, modifications have been made to meet the requirements of state and local agencies. For instance, Pennsylvania is emphasizing the need for probation and parole data in OBSCIS. The Prosecuting Attorney's Office in Kalamazoo, Michigan, is stressing the managerial applications of PROMIS.

The goals and objectives articulated by system representatives at the state and local levels generally adhere to the original ones postulated in the documentation prepared by the system developers. However, there is some variation among states. Pennsylvania, for example, has terminated efforts to implement a full-scale CCH system, and is instead embarking upon the development of a much scaled-down alternative to the original concept, namely an automated Master Name Index. While, one objective of CCH is the creation of a state-level repository containing detailed rap sheets, the parallel objective of the Master Name Index is the implementation and operation of a state-level repository comprised of summary rap sheets. Among the four, system changes in goals and objectives are perhaps most significant in the case of PROMIS. There are multiple versions of PROMIS either in operation or under development to incorporate state-of-the-art advances, to seek expanded uses of the system in the courts, and/or

to accommodate unique local requirements. There is also an associated shift from an operational orientation (e.g., the ranking of cases using quantitative scores) to a managerial perspective (e.g., calendar management).

7.1.2 System development

- The basic design of the systems at the state and local levels generally follows the recommendations contained in original system models.
- However, considerable variation is evident in system implementation and operational status. For example, Pennsylvania has decided to develop a limited version of CCH consisting of a Master Name Index of offenders. In contrast, the Michigan and Georgia CCH systems more closely adhere to the original SEARCH model.
- There is a trend toward utilizing transferable software packages and adopting new technologies such as mini-computers. This is the case in PROMIS and in the latest version of OBSCIS.
- There appears to be some question as to whether it is viable to implement SJIS in a state with a non-unified court system.

While each state has apparently utilized the core recommendations suggested by SEARCH Group, Inc. and INSLAW, local system developers have essentially adapted the basic model to conform to local needs and resources. Progress in system development has been uneven. Some states such as Michigan and Florida seem to have been able to set up systems rather smoothly, while other states have encountered difficulties in the form of economic roadblocks (for example, CCH in Pennsylvania), political barriers (to illustrate, SJIS in Georgia and SJIS in Pennsylvania), or system complexities (for example, OBSCIS in Arizona). These difficulties not only inhibit the implementation and operation of individual information systems, but also impede interface among state and local criminal justice data systems in general.

Recent efforts to implement criminal justice information systems reveal two developmental trends. First, instead of building a system from scratch, more agencies are beginning to adopt or modify existing software packages to meet their operational needs. For example, PROMIS software has been modified for use as the "criminal module" of court information systems. Similarly, a software package has been developed for the "admission," "movement" and "national reporting" modules of OBSCIS with the expectation that such a package can be readily adopted for use by many correctional agencies. Second, information systems are now being desinged to take advantage of the new "mini-computer" technology. PROMIS and OBSCIS are illustrations of this trend.

7.1.3 Level of Commitment

- Commitment to the institutionalization of individual systems varies from state-to-state and system-to-system. Generally, the CCH systems as the central repository of criminal history record information (CHRI) appear to have garnered the strongest support.

The level of commitment exhibited by state and local governments in providing funding to support and institutionalize these information systems after federal monies are terminated also appears to vary both from state-to-state and among systems. Across-the-board backing at the state-level appears strongest for CCH and is probably linked to the traditionally strong ties between state police and state government. Similarly, PROMIS seems to have generated influential support at the local prosecutor level. By contrast, key state officials appear to be less than enthusiastic in their support for the continued operation of OBSCIS and SJIS. For instance, little support is evident for OBSCIS in Arizona and Pennsylvania, and likewise for SJIS in Arizona and Georgia.

7.1.4 Privacy and Security Regulations

- The privacy and security regulations appear to have their greatest impact on CCH systems as the central repository of CHRI.
- While court records are exempt, there remains some question as to the regulations' applicability when an SJIS system aggregates CHRI.
- There is some confusion as to the extent of the applicability of the regulations particularly in the case of PROMIS and to a lesser extent, OBSCIS.
- Criminal justice agencies have expressed some apprehension concerning the costs of implementing procedures to ensure privacy such as audit trails and file reviews.

Privacy and security regulations seem to have had a mixed impact on the development of the information systems at the state and local levels. While the regulations are an important consideration insofar as CCH is concerned, they appear to have had minimal impact on the development of OBSCIS and a negligible effect on the basic designs of SJIS and PROMIS. This is not unexpected since CCH, because of its well identified role as a central repository of criminal history record information, is clearly within the purview of the regulations, while court information systems such as SJIS are either intentionally exempted or only marginally affected by the regulations. However, persons involved with OBSCIS, SJIS and PROMIS systems are confused as to the exact application of the regulations to their systems, particularly the requirement to develop means to ensure privacy. Consequently, they appear to be reluctant to implement the mandated procedures. Moreover, they are apprehensive about the cost involved in developing mechanisms such as audit trails and file reviews which may not be applicable to their particular systems.

7.1.5 Interface

- The extent of interface among systems is somewhat limited.
- Information is generally exchanged among agencies rather than among systems.
- Interface is usually achieved by the exchange of paper files rather than the transfer of tapes or direct computer links.
- Proliferation of customized local systems may complicate interface.

While interface is a key assumption underlying the design of the system models, considerations of interface have not played a major role in either system development or operation. There does not appear to be any interface among the major information systems in states where CCH has not been implemented. PROMIS is being used as a stand-alone system by prosecutors and has not been linked to the three other systems. In some states, such as Arizona and Pennsylvania, councils have been established to encourage multi-system interface by standardizing data element definitions, reviewing data collection forms and ensuring that linkages are incorporated into the design of each system. Overall, only a limited degree of interface has been achieved. For the most part, interface is accomplished by the exchange of hard-copy printouts among agencies. There are, however, indications that interface is undergoing a metamorphosis. In a few instances, tapes are being used to exchange data among systems. Further, in at least one state (Florida), work is being pursued to achieve linkage via shared computer facilities.

A major obstacle to interface is attributable to jurisdictional or authority conflicts. This problem is particularly evident in the implementation of SJIS, as court systems are typically composed of numerous, relatively independent jurisdictions. The problem is further compounded as some of the local criminal justice information

have predated SJIS or they were developed without coordination with statewide efforts. Consequently, the design of the data base of the local systems (among other factors) may be incompatible with that of statewide systems. This situation may be exacerbated in the future by the proliferation of customized local criminal justice information systems, taking advantage of the availability of low cost mini-computers.

7.2 Identification of Potential Policy Issues

As a result of visits to the various CCH, OBSCIS, SJIS and PROMIS projects in six states, several key policy issues have been tentatively identified concerning multi-system interface as well as the future development of individual systems. Over the past decade, there has been an emphasis at the national level to develop state-wide integrated networks of computerized criminal justice information systems. The primary purpose for national funding of these systems is to support a central repository of complete and accurate criminal history record information and provide rapid access to that information by multiple agencies.

The slow progress in achieving system interface as indicated by the six states visited so far raises a number of policy issues which need to be addressed.

- To what extent is there a continued need to attempt to achieve interface among these four computerized criminal justice information systems? What are the precise benefits to be gained? What are the costs?
- If there is a continued need for interface, what changes may be necessary to accelerate progress toward system interface?
- How should interface be achieved?
- What should be the data exchange requirements among these four systems in the future?
- If there is not a continuing need for interface, what is the proper framework for interactions among systems?

- How does the current proliferation of customized local criminal justice information systems impact on interface requirements?
- In what way should the development of local systems be coordinated with state-wide systems? How can such coordination be accomplished?
- Given the rapid decline in hardware costs and the trend toward distributive processing, how would these developments affect the future among systems?

In the area of privacy and security regulations there are also several policy issues which need to be examined:

- What is the specific extent to which the regulations apply to each of the four systems?
- To what extent will the regulations apply to local systems?
- How will technological advances affect privacy and security?
- How will the privacy and security regulations affect interface among state and local information systems?

7.3 Future Plans

The above issues will be further explored during visits to additional sites with the four systems in various stages of operation. As a larger sample of state and local experiences is surveyed, it will be possible to determine whether the above preliminary observations are indeed valid as presently stated or whether they need to be modified. Within this general context, future data collection and analysis activities will center on gaining additional insight into the issues raised above. This may, for example, include identification of critical events in system evolution or other key factors that might have promoted or hindered system interface. Finally, more attention will be given to the potential impact of new technologies (such as mini-computers, low cost terminals and word processing) on future information system development and interface as perceived by system developers and users at state/local agencies.

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