

Secretary of State **AUDIT REPORT**

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Oregon Youth Authority: Evaluation of Juvenile Justice Information System General and Application Controls



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Summary

PURPOSE

The purpose of this audit was to determine if the Juvenile Justice Information System administered by the Oregon Youth Authority (youth authority), contained necessary information for evaluating the effectiveness of Oregon's juvenile justice system programs and services. In addition, we evaluated the integrity of the information system and data.

RESULTS IN BRIEF

The Juvenile Justice Information System (JJIS) did not contain complete information for evaluating the effectiveness of Oregon's juvenile justice system programs, services and policies. The database provided useful information, but certain data were not valid or not entered consistently. In addition, the youth authority had not adequately controlled access to the JJIS system and database. Furthermore, the youth authority had not separated the process for implementing changes to the system from the design and development phases.

RECOMMENDATIONS

We recommend that the youth authority's management:

- Conclude the processes for ensuring complete data in JJIS.
- Finalize and communicate to JJIS users policies and requirements related to recording and correcting data.

- Modify access profiles to provide access on a least-need basis and develop access request forms that agree with the access profiles.
- Authorize an individual to implement, monitor and enforce the security rules.
- Separate the process of implementing changes to the system from the design and development phases.

AGENCY RESPONSE

The Oregon Youth Authority generally agrees with the findings in the audit.

The Juvenile Justice Information System (JJIS) was developed to serve both the needs of the 36 county juvenile departments and the Oregon Youth Authority (OYA). This partnership was born out of the need to provide statistics; planning, development and evaluation of programs; and decision-making information. The JJIS Steering Committee, which consists of county, OYA and other state agency participants, directs all aspects of JJIS, including development of the software and its implementation.

We are pleased that your auditors recognized that JJIS is providing the recording and tracking functions as was intended and that it is providing useful information to users. It has been a monumental effort to overcome the barriers to the development of a shared system, but one well worth it for the juvenile justice system and the state as a whole.

Introduction

Background

In 1995, the Legislative Assembly enacted Senate Bill 1, which required the Secretary of State to review the programs, policies and services of the state's juvenile justice system. One of our prior audits in compliance with this directive resulted in report No. 1999-04, *Oregon Youth Authority Juvenile Justice System Review*. The report explained that information on youth offenders was not readily available because there was no central system containing this information. At the time of that

audit, the Oregon Youth Authority (youth authority) was developing a new statewide information system.

In 1999, the youth authority established the Juvenile Justice Information System (JJIS). The system was intended to provide information about youths in the juvenile system across state, county and local agencies.

JJIS was implemented in stages, one of which was completed by the end of 1999 to deal with year 2000 issues of counties' prior systems. Most counties that currently use JJIS converted their historical data. Two counties, Deschutes and Multnomah, did not convert in 1999. Deschutes

County migrated to JJIS in December 2001; Multnomah County is scheduled for conversion in 2003.

One of the youth authority's challenges in creating JJIS was to centralize the record keeping processes of the youth authority's facilities and 36 independently operated county juvenile departments. To help it accomplish this goal, the youth authority formed partnerships with the counties and organized a steering committee comprised primarily of state and county representatives.

Information System Controls

Information system controls are generally categorized as general or application controls. General computer controls protect the environment in which software applications process. These controls include processes and procedures to ensure security of data and systems from unauthorized changes and from adverse environmental factors.

Application controls ensure the completeness, accuracy, and validity of data during input, processing, output, and storage.

Audit Results

JJIS Data Need to Be Improved

JJIS did not contain complete information for evaluating the effectiveness of Oregon's juvenile justice system programs, services, and policies. This was true, in part, because one county's data had not been included in the database and, in part, because program and service data were not complete. As a result, it is not possible on a statewide basis to gather critical information that would enable us to evaluate the effectiveness of the juvenile justice system as a whole or to compare counties to each other. Furthermore, certain information was not accurate or was not entered in a consistent manner.

We found that we could not present a blanket conclusion about the completeness and reliability of the data in JJIS that would apply in all circumstances. Our audit results need to be considered in the context of how the data will be used. JJIS provides many uses—from a mechanism for recording and tracking a youth's offenses and encounters with the juvenile justice system to providing information for reporting on recidivism across county lines. Therefore, our

conclusions about data integrity could be significant when considering one youth's file, but could have a different perspective when considering a statistical report containing information from all youths' files.

Juvenile department directors from 18 counties responded to questions about how well JJIS worked for them. All but one indicated that JJIS met the needs of their organizations. All indicated that they relied on the data in JJIS. Based on our interviews, it appears that JJIS is providing the recording and tracking function as intended and is providing useful information to users.

Completeness

We found that JJIS did not contain complete information for evaluating the effectiveness of Oregon's juvenile justice system programs, services, and policies. This was primarily because Multnomah County had not converted to JJIS when we conducted our audit. The volume of data contained in Multnomah County's files could significantly impact comprehensive studies and reports. Although Multnomah County's data are available through other means, synchronizing and combining them with data from JJIS adds time and costs to projects for which statewide data are needed.

Program and service information also was not complete in JJIS. Prior to February 2002, JJIS did not provide a mechanism for counties to record and track program and service information for youth. Although county personnel could enter the accountability conditions and sanctions of youths' offenses, including services to be administered, a link was not available between the conditions and services and the providers of those services. The youth authority used a module within JJIS to record and track this type of data, but counties could not access this module. As a

result, some counties did not record this data or recorded it in note fields. Consequently, while this data may have been available in JJIS for some youths, it was not retrievable for comparative or evaluative purposes.

In February 2002, the youth authority provided counties with a new version of JJIS that allowed them to tie program and service providers with youths' conditions. At the time of our audit, however, not enough program and service information had been entered for us to evaluate its reliability.

Accuracy and Consistency

Except as noted below, information related to youths' referrals was generally accurate based on comparisons to supporting documentation such as police reports.¹ We found, however, that improvements could be made to increase the reliability and consistency of data in JJIS.

The treatment of offenses that were transferred from one county to another created duplicate referrals on certain youths' files during conversion. For example, one file contained 10 duplicate referrals because the receiving county recorded the offenses as well as did the referring county. When the two counties' files were merged after conversion, the duplicate referrals remained on the record. During our audit, the youth authority's JJIS Policy and Standards Committee, comprised of state and county representatives, was updating the policy for correcting duplicate referrals. The policy, however, was not finalized before our fieldwork was completed and therefore had not been communicated to all users.

¹ A referral is a citation or written report sent to a juvenile department, usually from a law enforcement agency, and for some counties, from a school, parent, or other agency. A referral report lists one or more alleged offenses defined by the *Oregon Revised Statutes*.

Counties did not consistently apply the guidance provided by the youth authority for recording reduced or modified offenses. According to a JJIS policy, *Reduced and Lesser Included Offenses*, reduced offenses were to be added to the original referral and tracked as appropriate. Any new unrelated offenses added at the time that the petition was filed or added later by the court were to be recorded as a new offense on the original referral. For certain referrals entered into JJIS after conversion, the reduced and new offenses were not reflected in JJIS. In other cases, the reduced and new offenses replaced the original offense. When questioned, county personnel provided different explanations of how the reduced and new offenses should be recorded.

The youth authority has established a mandatory minimum set of data elements required to assure a standard minimum level for accurate statewide statistics. For example, the standards required race and ethnicity to be recorded for youths with delinquent referrals. When we reviewed these two data elements in JJIS, we found that 7 percent of the youths had an invalid or no race code, and 62 percent had an invalid or no ethnicity code. In addition, we could not review certain mandatory data elements related to decision points and outcomes because the youth authority had not specifically identified the data expected to be recorded in these data fields.²

Some of the missing data and inaccuracies were caused when information was converted from systems that did not contain compatible data fields, some from earlier versions of JJIS that did not allow for complete and correct entry of certain data, and some from

differing local practices for recording certain data.

Information provided from data that are not complete, accurate, or comparable could lead to inaccurate conclusions. Users of the information in JJIS need to be aware of its limitations.

We recommend that the youth authority management:

- Conclude the process for Multnomah County's conversion to JJIS.
- Work with the users of JJIS to capture program and service information in JJIS.
- Finalize and communicate to users of JJIS the policy providing guidance for consistent treatment of duplicate referrals.
- Identify users who are not consistently recording reduced and new offenses according to policy and provide training as needed.
- Finalize and communicate to users of JJIS the requirements for the mandatory minimum data elements.

Agency's Response

We agree. While we have been able to produce a statewide recidivism report by gaining access to Multnomah County data through means other than JJIS, completing the process of the county's conversion to JJIS has been defined as the first priority for the system by the JJIS Steering Committee. The expected date for the completion of this task is March 28, 2003.

We agree. As the audit report states, the capability of recording this data in an easily retrievable manner became available in JJIS in February 2002. We will continue to work with the JJIS Steering Committee and the Oregon Juvenile Department Director's Association to expand the amount of this data that is required to be recorded in JJIS to provide for more reliability.

We agree. The JJIS Steering Committee approved a policy on treatment of duplicate referrals on June 19, 2002. The policy has been communicated to users.

We agree. We are currently working to improve the capability to record this data by making an adjustment in the software in our next release. Once this is done, we will stress the correct procedure for recording these offenses in training.

We agree. The audit pointed out that data were sometimes missing for race and ethnicity. Sometimes this was based on errors and we have corrected the data that was in error. However, other times no entry was required if the characteristic wasn't present. This was especially true with ethnicity. We will work with the JJIS Steering Committee to establish a new coding structure that will address this problem.

Security Over JJIS Should Be Improved

The youth authority had not designed the security function on a least-need basis, nor had it assigned an individual to oversee security for JJIS.

A security framework is the responsibility of top management. The framework should include a comprehensive policy establishing how the system will be safeguarded. Recommended components of a security policy include, among other items:

- An access philosophy that recognizes access to computerized information should be based on a documented least-need basis,
- A plan for protecting data, and
- Authorization of responsibilities for implementing, monitoring and enforcing the security rules established in the policy.

² A decision point is a key event that happens during the processing and management of a youth's referral(s) and case, such as a formal court hearing, an informal screening or various reviews.

A security framework should also include a mechanism for awarding access on a least-need basis.

JJIS is a shared system with many users who need access to enter and update information. This was why, according to the youth authority's management, information had not been restricted for the majority of the JJIS users. Management had not taken steps to ensure that access profiles were designed to provide least-need access. For example, access roles described as "view only" on access request forms actually had update, alter, and delete capabilities. In addition, the access request forms did not clearly describe the available selections nor, as discussed above, did the selections agree with the access that could be granted because of how access profiles were designed. Consequently, users were granted access in excess of what was requested for them, increasing the potential for unauthorized modifications to the data, in addition to unauthorized use, disclosure, damage or loss.

The youth authority's management also had not assigned an individual the responsibilities for implementing, monitoring, and enforcing the security rules established by management.

We recommend that the youth authority's management:

- Modify access profiles to provide access on a least-need basis.
- Develop request forms to include selections that agree with the access profiles.
- Authorize an individual to implement, monitor and enforce the security rules.

Agency's Response

We agree. Our intent was to provide only the access staff need to do their jobs through a role-based system where access to specific pieces of information was granted.

We will clarify the access selections available on the request forms and synchronize these with the accesses granted to ensure users are allowed access only to the information they should be.

We agree. We will assign an individual to be responsible for these functions.

Change Management

The youth authority could improve its process for managing changes to JJIS by separating responsibilities for designing changes and placing the changes into operation.

Changes to an application should be managed using a formal and controlled process. The process should allow for change requests to be prioritized, authorized, reviewed, tested, and approved before implementation. Finally, the process for placing changes into production should be separate and independent from designing and developing the changes.

The youth authority had a process for managing requested changes including steps for prioritizing, authorizing, reviewing and approving changes. The mechanism for controlling versions of the application appeared to be effective.

The process of implementing changes, however, was not completely independent from the design and development phases. Specifically, the same person responsible for oversight and control of the application was also responsible for incorporating the changes into the application and preparing new versions for release to the users.

Not having an independent process for implementing changes increases the risk of errors or unauthorized changes, which could lead to down time and increased costs for restoration.

We recommend that the youth authority separate the process of

implementing changes from the design and development phases.

Agency's Response

We agree. In an information systems organization that is small, it is difficult to provide the separation of duties that is necessary. However, we have developed a process that ensures that no one individual can implement changes to the application without review by another party.

Objectives, Scope and Methodology

Our audit included a review of selected general and application controls at the Oregon Youth Authority and selected county offices. We performed our fieldwork between December 2001 and August 2002.

The objectives of our audit were to:

1. Determine whether the Juvenile Justice Information System contained the necessary information to evaluate the effectiveness of programs, policies and services administered within Oregon's juvenile justice system.
2. Determine whether sufficient general and application controls were in place to ensure that JJIS data remained complete, accurate, valid, comparable and secure.
3. Determine whether sufficient version controls were in place to ensure the integrity of the JJIS.

We limited our review of JJIS to the youth region containing information of youths' encounters with the juvenile justice system. JJIS also contains a financial region used by the youth authority for certain operating processes. We did not review the financial region.

To accomplish the first objective noted above, we identified specific information that we considered

necessary for evaluating the effectiveness of Oregon's juvenile justice system programs, polices and services. The information included items such as:

- Youth's name,
- Demographic information,
- Offenses and outcome of the offenses,
- Conditions and consequences, which could include community service, financial restitution and other specific activities required of youths, and
- Services, which could include treatment programs and other specialized programs.

We limited our audit work to only the information that we considered critical for evaluation purposes.

The youth authority's management could not identify or provide documentation of procedures for

ensuring the integrity of the data in JJIS. For our conclusions about the completeness and reliability of the data, therefore, we were not able to test controls but relied, instead, on our tests of the data.

Our audit work included inquiries of youth authority and county personnel and examination of documents related to controls and procedures. We conducted data integrity tests, which included examining documentation at county juvenile departments, juvenile detention centers and youth authority facilities. To perform these tests, we obtained a copy of the JJIS database as of March 8, 2002. From this information, we selected 57 youths from 19 counties for which we verified the accuracy of selected data. In addition, we performed tests on 100 percent of the data in selected data fields, looking for completeness and reasonableness of the data.

We evaluated compliance with applicable laws, rules, and regulations pertaining to controls and maintaining the confidentiality of juvenile justice system data.

During our audit, we used the Information Systems Audit and Control Foundation's (ISACF) publication, *Control Objectives for Information and Related Technology* (COBIT), to identify generally accepted and applicable internal control objectives and practices for information systems. ISACF is a worldwide organization dedicated to researching, developing, and publicizing generally accepted information technology control objectives and audit guidelines.

We conducted our audit according to generally accepted government auditing standards.

This report, which is a public record, is intended to promote the best possible management of public resources. Copies may be obtained by mail at Oregon Audits Division, Public Service Building, Salem, Oregon 97310, by phone at 503-986-2255 and 800-336-8218 (hotline), or internet at Audits.Hotline@state.or.us and <http://www.sos.state.or.us/audits/audithp.htm>.

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The courtesies and cooperation extended by the officials and staff of the Oregon Youth Authority and selected counties were commendable and much appreciated.

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