AUDITOR GENERAL

WILLIAM O. MONROE, CPA

DEPARTMENT OF HEALTH DATABASES FOR SEXUALLY TRANSMITTED DISEASE MANAGEMENT AND CHILDREN'S MEDICAL SERVICES

OPERATIONAL AUDIT

SUMMARY

The Department of Health oversees the Sexually Transmitted Diseases (STD) Program related to the control and prevention of sexually transmitted diseases. Services provided include: treatment for infected individuals, counseling, surveillance, screening, and public awareness and education. The Department uses the Sexually Transmitted Disease Management Information System (STD*MIS) for STD case management, clinic visits, field investigations, and morbidity related reporting to the Center for Disease Control and Prevention (CDC).

The Department also administers the Children's Medical Services (CMS) program to provide services to children with special health care needs. Services are provided through a network of contracted clinics, hospitals, and physicians. The Department maintains client and care coordination information in the Case Management Data System (CMDS).

Our reviews related to these systems for the period July 2002 through January 2004 disclosed areas in which the systems need improvements to ensure the integrity and timeliness of the data. Specifically:

Sexually Transmitted Disease Management Information System

Finding No. 1: Due to a lack of system integration, STD data is at increased risk of errors and delays. The lack of integration also increases the staffing necessary to record and process STD cases and could inhibit the Department's ability to ensure timely and accurate collection of STD data and facilitate treatment.

Finding No. 2: The STD*MIS does not include features that ensure the accuracy of transaction date and history, provide efficient patient identification, and prevent the entry of duplicate data.

Finding No. 3: System security control weaknesses need to be addressed to protect the system's sensitive data.

CMS Case Management Data System

Finding No. 4: The absence of integration among CMDS area offices and between area offices and the central program office causes duplication of staff efforts and delays the central program office obtaining information needed to manage the CMS program.

Finding No. 5: The inconsistent use of CMDS data fields lessens the reliability of the data and prevents effective matching of data with other Department and State systems.

FINDINGS AND RECOMMENDATIONS

Sexually Transmitted Disease Management Information System

The Legislature has recognized that STD represents a serious and sometimes fatal health threat. To help ensure a timely response to emerging needs, Section 384.25, Florida Statutes, requires each person who makes a diagnosis of, or treats a person with a STD, and each laboratory that performs a test for a STD

which concludes with a positive result, to timely report the result to the Department. In turn, the Department is required to submit an annual report of all reported STDs to the Legislature by February 1st of each year. The test results are maintained within the STD*MIS. The system is a data management system developed by the CDC and made available to the states for standard reporting purposes. The Department electronically submits STD demographic data to the CDC weekly, as well as an annual report each May.

Finding No. 1: STD*MIS System Integration

The STD*MIS does not provide on-line access for laboratories and medical practitioners, electronic communications among the Department's 15 STD area offices, or integration with other Department systems. As a result:

- The State laboratories submit electronic data files reporting test results (positive results, suspected cases, and contacts to known cases) to the Department, which processes the information through a system that analyzes the data and reports alerts for instances that meet certain STD disease criteria (e.g., pregnant women testing positive). The data and alert information must then be routed to the STD area offices where personnel manually input the results into the individual area office's STD*MIS.
- Private laboratories and medical practitioners manually submit hard copy test results to STD area offices. If an STD area office receives results for patients not within their jurisdiction, the results must be routed to the appropriate STD area office. Upon receipt of test results, STD area office personnel must manually enter the information into the STD*MIS. The data received by the STD area offices from non-State laboratories is not submitted in electronic form and, therefore, not subjected to the same alerts as the State laboratories' data, thereby limiting potential warnings.
- Due to the nature of the diseases, the Department's STD program and HIV/AIDS program must routinely share information. However, since the STD*MIS is not integrated with the Department's HIV/AIDS Reporting System (HARS) and the HIV Counseling and Testing Database, program personnel must manually prepare and submit relevant data for input into the other program's systems. Moreover, due to the systems' lack of unique patient identifiers, the Department does not routinely reconcile the HIV Systems and STD*MIS to ensure both systems have complete and accurate data.

The absence of on-line access and integration of the STD*MIS creates an inefficient and ineffective operational environment in that the risk of STD data not being recorded or recorded timely is increased and needed follow-up of STD cases may not occur or be delayed. To compensate for this deficiency, significant staff resources are used for monitoring and tracking the receipt and routing of test results to ensure the results are properly recorded, processed, and closed in a timely manner.

Recommendation: To ensure timely and accurate collection of STD data and facilitate treatment, the Department should continue its efforts to migrate to an upgraded version of the STD*MIS. The Department should determine the feasibility of obtaining a replacement system that will provide on-line access and electronic submission and transmission of STD data among users. In the interim, the Department should consider rule changes that would require large private laboratories and medical practitioners to submit test results in electronic form similar to that of the State laboratories. Additionally, the Department should implement periodic reconciliations between the STD*MIS and other related Department systems (e.g., HARS) to ensure test results information is appropriately transferred.

Finding No. 2: STD*MIS Application Controls

Computer application controls include functions and edits that help ensure data input, processed, and reported is complete and accurate. The following STD*MIS application control deficiencies reduce the system's reliability:

- The system's date and time is part of every record. However, each time a record is accessed for modification (regardless of whether an actual change is made), the system updates the record's date and time without preserving a transaction history. The absence of a secured date and time and transaction history compromises the integrity of the programmed procedures that rely on accurate date and time data and precludes having an effective trail of changes.
- The STD*MIS does not use a specific identifier associated with each patient. Although the system generates a 10-digit patient ID field, the data is comprised of the site number and a system-assigned record number. Therefore, patients with multiple records in the STD*MIS will have multiple patient ID numbers. Additionally, since names and addresses can be input different ways, the absence of a unique patient identifier makes identifying all data for a single patient difficult.
- The STD*MIS does not include an edit function to prevent entry of duplicate records. Rather, users of the STD*MIS must perform searches for duplicate records based on data fields such as the patient's name, address, gender, and birth year. This condition increases the risk of undetected duplications.

Recommendation: As recommended in Finding No. 1, the Department should continue its efforts to migrate to an upgraded version of the STD*MIS and determine the feasibility of obtaining a replacement system that will ensure a secured date and time feature and transaction history, provide efficient patient identification, and include front-end edits to prevent the entry of duplicate data. In analyzing system alternatives, the Department should consider implementing a unified system that could maintain and report integrated data for each patient across all Department program services.

Finding No. 3: STD*MIS System Security

During our review, we identified a number of system security control weaknesses that need to be improved to protect the sensitive data the system maintains. Specific details of these deficiencies are not disclosed in this report to avoid any possibility of compromising Department information. However, appropriate Department personnel have been notified of the deficiencies. Additional security deficiencies included the absence of:

- Written security administration policies and procedures relating to request, assignment, deletion, and review of access for users.
- Documentation supporting the request and approval of users' access.
- Sufficient periodic review of user security profiles. Our review of the user access profiles for two area offices disclosed 13 user IDs for 11 employees who had terminated between December 2002 to May 2004, but who still had access to STD*MIS as of July 2004.

Comprehensive written policies and procedures provide guidance to Department staff, as well as help implement an appropriate control environment. The maintenance of documents supporting the request and assignment of user access, and periodic review of those assignments, helps ensure individuals only have access commensurate with that needed for the performance of their assigned duties.

Recommendation: The Department should implement appropriate security control features to

protect the sensitive data the system maintains and to prevent and detect any unauthorized access attempts made to the STD*MIS. In instances in which system modifications are not possible or practical, the Department should ensure compensating manual controls (e.g., segregation of duties, additional supervision and review) are in place and operating effectively. Comprehensive written security administration policies and procedures relating to access requests, assignments, deletions, and review of user security profiles should be established and implemented.

CMS Case Management Data System

The Children's Medical Services (CMS) program provides services to children with special health care needs. These services are provided through a Statewide, managed care network of health care providers. The Department operates the Case Management Data System (CMDS) to track client registration, services scheduled and delivered, clinics scheduled and delivered, and enable automated third party billing.

Finding No. 4: CMDS System Integration

CMS services are coordinated through 22 area CMS offices. The CMDS system consists of stand-alone databases at each of the area offices with no electronic communications among area offices or between area offices and the central program office. As a result:

- For clients who move to a different part of the State, information must be re-entered from client file hard copies into the new area office's CMDS.
- To produce Statewide reports, the central program office must have each area office send data files to Tallahassee for compilation.

The absence of system integration results in duplication of staff efforts and delays in the central program office obtaining information needed to manage the CMS program.

Recommendation: We recommend the Department evaluate the feasibility of enhancing or replacing the current CMDS to provide electronic communications among area offices and the central program office.

Finding No. 5: CMDS Application Controls

As described previously, computer application controls help ensure data input, processed, and reported is complete and accurate. The following CMDS application control deficiencies reduce the system's reliability:

- The system primarily uses a client's social security number for the Client ID. However, if a client does not have a social security number or the number is unknown, the client's initials and date of birth are used as the Client ID.
- When Department personnel update certain data fields, the system writes over the old data (e.g., address, contact information, funding source, eligibility diagnosis) without preserving a transaction history.

The inconsistent use of CMDS data fields lessens the reliability of the data and prevents effective matching of data with other Department and State systems (e.g., to identify whether providers of services receive compensation for the same service from other State sources). The absence of transaction history data precludes an effective trail of changes to client information.

Recommendation: In determining the feasibility of enhancing or replacing the CMDS, the Department should ensure consistent data standards and transaction histories are implemented. As recommended above, in analyzing system alternatives, the Department should consider implementing a unified system to maintain and report integrated data for each patient across all Department program services.

OBJECTIVES, SCOPE, AND METHODOLOGY

The overall objectives related to our audit of the STD*MIS and the CMS program were to obtain an understanding of internal control and make judgments as to the effectiveness of those internal controls and to evaluate management's performance in achieving compliance with controlling laws, administrative rules, and other guidelines; the economic, efficient, and effective operation of State government; the validity and reliability of records and reports; the safeguarding of assets and, if applicable, identify statutory and fiscal changes for Legislative consideration.

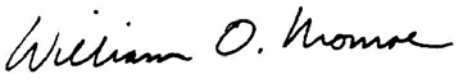
The scope of the audit as it related to the STD*MIS focused on controls and processes related to ensuring the accuracy and reliability of information contained in the STD*MIS.

The scope of the audit as it related to the CMS program focused on the accuracy and completeness of Medicaid and Kidcare billings, comparison of CMS Safety Net payment data in CMDS to Medicaid payments, the eligibility of clients served by CMS, and controls related to dual-employment (State employment and contracted health care provider).

In conducting our audit, we interviewed Department personnel, made inquiries and observations, and completed various analyses and other procedures as determined necessary.

AUTHORITY

Pursuant to the provisions of Section 11.45, Florida Statutes, I have directed that this report be prepared to present the results of our operational audit.



William O. Monroe, CPA
Auditor General

AUDITEE RESPONSE

As required by law, our preliminary and tentative audit findings were provided to the Secretary of the Department of Health. In a letter dated September 22, 2004, the Secretary provided a response that concurred with our audit findings and recommendations.

For the Secretary's complete response to the findings and recommendations contained in this report, please see the Auditor General's Web site where the response may be viewed in its entirety.

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To promote accountability in government and improvement in government operations, the Auditor General makes operational audits of selected programs, activities, and functions of State agencies. This operational audit was made in accordance with applicable ***Governmental Auditing Standards*** issued by the Comptroller General of the United States. This audit was conducted by Susan C. Phelan, CPA and supervised by Peggy S. Miller, CPA. Please address inquiries regarding this report to Marcia Maheu, CPA, Audit Manager, via e-mail at marciamaheu@aud.state.fl.us or by telephone at (850) 487-9038**.**

This report and other audit reports prepared by the Auditor General can be obtained on our Web site (http://www.state.fl.us/audgen); by telephone (850 487-9024); or by mail (G74 Claude Pepper Building, 111 West Madison Street, Tallahassee, Florida 32399-1450).

FLORIDA DEPARTMENT OF HEALTH

Jeb Bush
Governor

John O. Agwunobi, M.D., M.B.A.
Secretary

September 22, 2004

Mr. William O. Monroe, C.P.A.
Auditor General
Room G74, Claude Pepper Building
111 West Madison Street
Tallahassee, FL 32399-1450

Dear Mr. Monroe:

This letter is in response to your August 27 correspondence regarding the preliminary and tentative findings of your report entitled, "Department of Health Databases for Sexually Transmitted Disease Management and Children's Medical Services." The agency's response and corrective action plans to your findings and recommendations may be found in the enclosed document.

We appreciate the work of your staff and will diligently pursue appropriate resolution to the findings.

If I may be of further assistance, please let me know.

Sincerely,

John O. Agwunobi, M.D., M.B.A., M.P.H.
Secretary, Department of Health

JOA/mhb
Enclosure

Finding	*Recommendation*	*Management's Response*	*Corrective Action Plan*
Due to a lack of system integration, STD data is at increased risk of errors and delays. The lack of integration also increases the staffing necessary to record and process STD cases and could inhibit the Department's ability to ensure timely and accurate collection of STD data and facilitate treatment.	To ensure timely and accurate collection of STD data and facilitate treatment, the Department should continue its efforts to migrate to an upgraded version of the STD*MIS. The Department should determine the feasibility of obtaining a replacement system that will provide on-line access and electronic submission and transmission of STD data among users. In the interim, the department should consider rule changes that would require large private laboratories and medical practitioners to submit test results in electronic form similar to that of the State laboratories. Additionally, the Department should implement periodic reconciliations between the STD*MIS and other related Department systems (e.g., HARS) to ensure test results information is appropriately transferred.	Following long range strategic planning initiated in June 2000, the Bureau of STD (BSTD) adopted the goal to actively seek information technology solutions that promote core concepts related to enterprise architecture envisioned by the DOH Office of Information Technology in order to modernize STD operations and management. Those core concepts include: 1) utilize technology to integrate at some level the data systems which support the business perspectives of partner disease control programs (e.g., HIV, Hepatitis, etc); 2) employ electronic laboratory reporting to reduce in disease intervention time frames; and 3) adopt IT standards approved by the department to support development and deployment of a replacement to STD*MIS that would support modern-day STD management activities. Extensive business improvement activities were conducted utilizing DOH approved Rational Suite. Through the course of this time there has been an ongoing evolution of the vision for DOH information technology. BSTD has approached the replacement of STD*MIS within the confines of this vision. Currently, the Department is obligated to meet ongoing time frames for the roll out of its enterprise system and in the near future must address migration from its current technology "environment" to possibly an SQL technology "environment", dependent on the costs associated with the licenses and fee structures related to that. This has had significant impact on BSTD ability to address long-standing issues of security and functionality associated with the STD*MIS. With this in mind, BSTD has communicated with the DOH IT CIO that there would be no pursuit of a replacement of STD*MIS until such integral issues are resolved as it would be in the best interest of both the Department	Electronic Laboratory Reporting (ELR) 1. ELR 1. Enhance BSTD's current daily electronic laboratory reporting process from the DOH Bureau of Laboratories to revise all High Priority Alerting via email to designated representatives at the local CHD level, aligned with the BSTD/DOH health priorities. 1. ELR 2. Enhance BSTD's current daily electronic laboratory reporting process to provide electronic transmissions of test results directly from the Cloverleaf Integration Broker to secure server locations accessible by the local CHD staff responsible for the follow-up and intervention related to that test result. 1. ELR 3. Enhance BSTD's current daily electronic laboratory reporting process to include both the syphilis screening results from targeted outreach and all reportable STDs from both Quest Diagnostics and Lab Corp of America. 1. ELR 4. Enhance BSTD's current daily electronic laboratory reporting process to include the HIV Counseling and Testing results as part of the ELR process. 1. ELR 5. Advocate for the adoption of rule and future law change that will stipulate Electronic Laboratory Reporting for the state of Florida's reportable diseases. Such changes would promote Department goals and progress disease control efforts into the 21st century. Upgrade and Replacement of STD*MIS (U/R) 1. U/R 1. BSTD will upgrade the

and the Bureau to allow for time to become part of the scheduled "enterprise" plans for the DOH Information Systems. This delay can possibly support incorporation of BSTD information technology business needs within the scope of DOH future technology plans, but is not a guarantee. Meanwhile, BSTD concurs with the findings of the Auditor Generals Report. We concur and continue to participate in the ongoing efforts to improve the delivery of services, the quality of care to Florida's citizens, and the intervention in the spread of disease by advocating at each opportunity for increased integration at the data level between programs, adoption of electronic laboratory reporting for all of Florida's reportable sexually transmitted conditions from public and private laboratories and providers. BSTD continues the ongoing reconciliation between STD*MIS, HIV Counseling and Testing database and HARS, and any other that would enhance the delivery of those services and improve the quality of timely interventions and/or care for the citizens served. Effective August 04 BSTD initiated steps to seek governance approval process, for the upgrade of the current DOS based STD*MIS (in version 3.3) to the most recent version 4.0b. This upgrade will improve both the business operations and the technology associated with the current DOS version of the surveillance and case management software. Although, the upgrade will not achieve all of the objectives outlined in BSTD Strategic planning, BSTD business improvement initiative, or in the Auditor General's recommendation #1 above, it will address some as noted in the outlined activities. Of note, on 09/09/04 the Tier 2 request received "conditional approval", based on new STO standards and in-draft DOH policies (reference 60DD-2.001-.010 FAC).

current version of STD*MIS from 3.3 to 4.0b as part of the interim solution in the BSTD roadmap to replace with a DOH enterprise compliant system that meets the business needs of BSTD and conforms to the DOH Information Technology strategic vision. 1. U/R 2. BSTD will bring all artifacts and related materials from its Business Modeling effort to the DOH Information Technology Division for scheduling the development and deployment of a replacement for STD*MIS within the DOH Enterprise Architecture. 1. U/R 3. BSTD will advocate for and stipulate within the "Business Requirements" the suggestions of the Auditor General's Recommendation for full incorporation of electronic lab reporting and reconciliation and integration with related disease control program's data. Reconcile with HIV and other Systems (RECON) 1. RECON 1. Establish routine reporting parameters, timeframes, data quality expectations, and post test counseling results between the HIV Counseling and Testing Section and the Bureau of STD both as a manual process and into the electronic process described above. (ELR) 1. RECON 2. Advocate for and implement limited access for designated STD staff to have search (Read Only) rights to the HARS database for the local STD CHD program. Similar to the access granted on request to HIV staff to view BSTD's STD*MIS system, this will assist to obtain and record the HARS ID number in STD*MIS for

use as a PRIMARY LINK or KEY between the two systems. 1. RECON 3. Utilize the built in STD*MIS to HARS Import / Export Routine to enable both systems to update the matching records within each system with the Primary Key which links the records between them. This process assists in the reconciliation of the two systems. Test and implement a scheduled routine to complete this task quarterly at a minimum. 1. RECON 4. Advocate for the adoption of DOH Information Technology Metadata standards, field nomenclature, and unique primary keys which will enable the reconciliation between future systems of DOH and promote that concept at the level of CDC. BSTD will advocate with CDC to reduce their involvement in technology use, and shift to data reporting expectations.

Finding	*Recommendation*	*Management's Response*	*Corrective Action Plan*
The STD*MIS does not include features that ensure the accuracy of transaction date and history, provide efficient patient identification, and prevent the entry of duplicate data.	As recommended in Finding No. 1, the Department should continue its efforts to migrate to an upgraded version of the STD*MIS and determine the feasibility of obtaining a replacement system that will ensure a secured date and time feature and transaction history, provide efficient patient identification, and include front-end edits to prevent the entry of duplicate data. In analyzing system alternatives, the Department should consider implementing a unified system that could maintain and report integrated data for each patient across all Department program services.	BSTD concurs with this finding and agrees that the replacement of STD*MIS within the DOH Enterprise is critical to promote of improved health services and quality of care issues that arise in an environment that retains systems with no integration ability. Further, BSTD echoes the finding that the Department should seek a solution that addresses business requirements for the patients/clients served through a paradigm shift from "programmatic focus" to "patient/client centered" for systems that support the delivery of services.BSTD also agrees with the recommendation that any system retain the abilities outlined in the recommendation itself, including the integrated data for each patient across Divisions and Programs, as is reflected in the CAP items listed in the response by BSTD to Auditor General Recommendation 1.	2.1. Please refer to the CAP Items listed within BSTD's response to Auditor General Recommendation 1; including both the Upgrade and Replacement CAPS and the Reconciliation CAPS. 2.2. BSTD will adopt and include as Business Requirements, the recommendations outlined by the Auditor Generals Report for any future development and replacement of STD*MIS. 2.3. BSTD will continue to advocate for DOH to communicate with CDC regarding the stipulations on use of software related to CDC Disease Control programs. BSTD will begin open dialogue with CDC via meetings, grant responses, and special projects to focus on data and information sharing standardization with our CDC partners, allowing for program areas to determine the technology that best suits its needs within each specific enterprise.

Finding	*Recommendation*	*Management's Response*	*Corrective Action Plan*
System security control weaknesses need to be addressed to protect the system's sensitive data.	The Department should implement appropriate security control features to protect the sensitive data the system maintains and to prevent and detect any unauthorized access attempts made to the STD*MIS. In instances in which system modifications are not possible or practical, the Department should ensure compensating manual controls (e.g., segregation of duties, additional supervision and review) are in place and operating effectively. Comprehensive written security administration policies and procedures relating to access requests, assignments, deletions, and review of user security profiles should be established and implemented.	BSTD concurs with this recommendation and has already adopted external security administrative controls to protect the data and system integrity. BSTD does not see this as the final solution, but rather an interim solution until such time that the combination of manual external security controls and the use of technology based system security controls can fully achieve the desired level of compliance with this recommendation.	3.1. BSTD will inform all STD staff and Local STD Program staff by memo of immediate changes to the security/access to STD*MIS. This memo will detail out the process and forms to complete to be granted access to STD*MIS. Adherence to this will be expected, and those that do not follow the outline of the memo will be denied access to the STD*MIS. 3.2. BSTD will follow-up memos created to address the security issues in recommendation 3 with policy development in adherence to the DOH established procedures. 3.3. BSTD will attempt to utilize available Information Technology tools to increase the security controls on the STD*MIS system. Trials and testing will be conducted for feasibility. If successful, it will be implemented statewide for STD*MIS.

Finding	*Recommendation*	*Management's Response*	*Corrective Action Plan*
The absence of integration among CMDS area offices and between area offices and the central program office causes duplication of staff efforts and delays the central program office obtaining information needed to manage the CMS program.	We recommend the Department evaluate the feasibility of enhancing or replacing the current CMDS to provide electronic communications among area offices and the central program office.	CMS is aware of the fragile nature of its current business software and concurs with the auditor's recommendation. Since the Department has several different but similar functions it has determined that a core system is in order. The Department has identified a core system for business software support of various functional areas of the Department's business. The core system is being developed from the base of the old Health Clinic Management System that is used by the County Health Departments, now to be known as the Health Management System (HMS).	DOH is scheduled to perform a GAP analysis between the functionality of the HMS and CMS business/system requirements upon completion of the initial build of the core HMS. This GAP analysis will identify the commonalities and the differences of system requirements between the HMS core functionality and the CMS business driven system requirements. Once identified CMS will begin the process to secure the funding necessary to modify/add to the identified system requirements that are not accommodated.
The inconsistent use of CMDS data fields lessens the reliability of the data and prevents effective matching of data with other Department and State systems.	In determining the feasibility of enhancing or replacing the CMDS, the Department should ensure consistent data standards and transaction histories are implemented. As recommended above, in analyzing system alternatives, the Department should consider implementing a unified system to maintain and report integrated data for each patient across all Department program services.	CMS agrees that in the course of the development of a new business software that the new product should ensure consistent data standards and transactions histories with other departmental systems. It should also enable and promote integration with other departmental data systems.	When folding CMS into the larger planned core system (HMS) for the Department CMS will necessarily have to conform to data standards that will make its data compatible with that of other business areas of the Department who will also be using the system. Histories of client activity and services will be maintained and integration of similar functions will be achieved. Complimentary areas will be able to share data due to Department standards being adhered to (e.g. SHOTS and CMS or the CHDs).