Florida
MEDS-AD Waiver

Annual Report
January 1, 2013 – December 31, 2013

Demonstration Year 8

1115 Research and
Demonstration Waiver
#11-W-00205/4

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I. Introduction

This annual report includes programmatic and financial activities for Demonstration Year Eight, January 1, 2013 through December 31, 2014. By implementing this waiver, the Agency for Health Care Administration (Agency) seeks to demonstrate that the total cost of providing access to care for the MEDS-AD population (including costs for the Medication Therapy Management Program) will not exceed expected long-term cost of care for these individuals had they not received coverage until they required institutional care.

II. Waiver History

1. Legislative Changes

Prior to 2005 changes to section 409.904, Florida Statutes, the MEDS-AD eligibility group was defined as an optional program for persons who were age 65 or older or who were determined to be disabled; whose assets did not exceed established limitations; and whose incomes were at or below 88% of the Federal Poverty Level (FPL). Individuals eligible for the program could receive Medicaid medical assistance payments and related services. In 2005, concurrent with federal Medicare Part D implementation, the Florida Legislature amended the statutory eligibility criteria for the MEDS-AD program and directed the Agency in Chapter 2005-60, Laws of Florida, to seek federal waiver authority to revise Medicaid eligibility coverage for the Medicaid MEDS-AD eligibility group beginning January 1, 2006. The eligibility changes to the MEDS-AD program maintained eligibility for qualified recipients without Medicare coverage and eliminated coverage for dually eligible individuals unless the person is eligible for and receiving Medicaid institutional care services, hospice services or home and community based services. The initial demonstration ended on December 31, 2010. The State has received approval for a three-year renewal of federal waiver authority through December 31, 2013 for the MEDS AD demonstration. The State submitted a request Centers for Medicare and Medicaid Services (CMS) for an additional three-year renewal June 28, 2013. CMS granted a 1 year temporary extension for the waiver until December 31, 2014.

2. Program Design

To implement the Legislative changes described above, the State amended Florida Medicaid's State Plan to eliminate the former MEDS-AD eligibility category and submitted an 1115 Research and Demonstration waiver for aged or disabled residents of the State of Florida with incomes at or below 88% of the FPL and assets at or below $5,000 for an individual and $6,000 for a couple. Coverage is limited to those aged and disabled persons who are either receiving or elect to receive institutional care, hospice or home and community based services coverage or who are not eligible for Medicare. The New MEDS-AD Program is designed to prevent premature institutionalization of these vulnerable individuals by maintaining their level of care in the community longer through the provision of:

- Access to health care services
- Medication Therapy Management

The continued coverage, as well as the Medication Therapy Management program, will be funded through savings obtained by avoiding institutional costs that would otherwise occur in the next five years had these vulnerable individuals been denied access to prescribed drugs

and other medical services. The focus of the demonstration is to provide medication therapy management for enrollees who are not yet receiving institutional care.

3. Waiver Extension Request

In December 2010, the State received approval from CMS for the renewal period January 1, 2011 through December 31, 2013. During the 2011 legislative session, the State funded the waiver through State fiscal year 2011-2012, and in 2012 funding was extended through State fiscal year 2012-2013. On June 28, 2013, the State submitted a renewal request under 1115(a) authority to extend this waiver through December 31, 2016.

The Centers for Medicare and Medicaid Services granted the State a 1 year temporary extension on August 14, 2013 extending the current waiver period to December 31, 2014. See APPENDIX A for a copy of the letter from Centers for Medicaid and Medicare services granting the 1 year temporary extension.

4. Amendment for 6-month Medically Needy program

August 22, 2013 the State sent a letter to CMS withdrawing the pending 6-month Medically Needy program amendment request that was submitted to CMS April 26, 2012. Please see APPENDIX B for a copy of the letter.

5. Maintenance of Effort (MOE) Provisions in Section 1902(a)(74) and 1902(gg)

Since this waiver was renewed by CMS after March 23, 2010, it is no longer subject to the MOE provisions of the Patient Protection and Affordable Care Act.

III. Budget Neutrality Update

The following table compares actual waiver expenditures to the costs projected for this population had the waiver not been granted. To date, actual expenditures have been below the projected cost.

Table 1
Budget Neutrality
1115 MEDS-AD Waiver

DEMO YEAR	Quarter Ended	WW Expenditures	WW Expenditures Cumulative Total	WOW (Target) Expenditures	WOW Expend Total	Difference	Cumulative Difference
DY1	Q1	51,696,950		507,710,894		456,013,944	
	Q2	132,235,096		507,710,894		375,475,798	
	Q3	105,271,113		507,710,894		402,439,781	
	Q4	146,356,839	435,559,998	507,710,894	2,030,843,575	361,354,055	1,595,283,577
DY2	Q5	69,927,763		460,700,626		390,772,863	
	Q6	79,047,475		460,700,626		381,653,151	
	Q7	87,567,517		460,700,626		373,133,109	
	Q8	90,210,963	762,313,716	460,700,626	3,873,646,079	370,489,663	3,111,332,363
DY3	Q9	93,882,619		455,999,599		362,116,980	

Table 1 Budget Neutrality 1115 MEDS-AD Waiver							
DEMO YEAR	**Quarter Ended**	**WW Expenditures**	**WW Expenditures Cumulative Total**	**WOW (Target) Expenditures**	**WOW Expend Total**	**Difference**	**Cumulative Difference**
	Q10	103,108,178		455,999,599		352,891,421	
	Q11	95,761,142		455,999,599		360,238,457	
	Q12	96,128,169	1,151,193,824	455,999,599	5,697,644,476	359,871,430	4,546,450,652
DY4	Q13	107,727,900		465,401,653		357,673,753	
	Q14	106,365,677		465,401,653		359,035,976	
	Q15	120,849,499		465,401,653		344,552,154	
	Q16	133,665,863	1,619,802,762	465,401,653	7,559,251,086	331,735,790	5,939,448,324
DY5	Q17	138,153,082		460,700,626		322,547,544	
	Q18	144,229,555		460,700,626		316,471,071	
	Q19	134,966,909		460,700,626		325,733,717	
	Q20	148,599,566	2,185,751,874	460,700,626	9,402,053,590	312,101,060	7,216,301,716
DY6	Q21	154,004,876		*			
	Q22	146,340,361		*			
	Q23	155,268,617		*			
	Q24	163,774,246	2,805,139,974	*	9,402,053,590		6,596,913,616
DY7	Q25	165,396,338		*			
	Q26	184,629,761		*			
	Q27	165,063,579		*			
	Q28	168,922,270	3,489,151,922	*	9,402,053,590		5,912,901,668
DY8	Q29	151,084,893		*			
	Q30	150,685,372		*			
	Q31	159,542,998		*			
	Q32	162,697,430	4,113,162,615	*	9,402,053,590		5,123,996,918

*Note: The original WOW expenditure ceiling was not increased with the renewal period beginning in Quarter 21. The $7,216,301,716 cumulative difference between the approved budget neutrality ceiling and actual waiver expenditures as of the end of the original demonstration period on December 31, 2010 was allocated across the 12 renewal quarters as the new expenditure ceiling.

IV. Operational Update

1. Eligibility and Enrollment

The Florida Department of Children and Families (DCF) is responsible for conducting intake, assessment, eligibility determination, enrollment, disenrollment, and data collection on the availability of third party coverage including Medicare, and annual re-determinations of eligibility.

To be eligible for the waiver, recipients must be at or below 88% of the FPL with assets at or below $5,000 for an individual ($6,000 for a couple) and be in one of the following Medicaid Eligibility Groups (MEG):

- **MEG 1 (MA-Medicaid Only):** Medicaid Only eligibles *not* currently receiving Hospice, Home and Community Based Services, or Institutional Care Services.
- **MEG 2 (MA-Medicaid Institutional):** Medicaid Only eligibles currently receiving Hospice, Home and Community Based Services, or Institutional Care Services.
- **MEG 3 (MA-Dual Eligibles):** Medicaid and Medicare (dual) eligibles receiving Hospice, Home and Community Based Services, or Institutional Care Services. Individuals with Medicare are not eligible for this waiver unless they meet the conditions of MEG 3.

Individuals in MEG 1 must select either the Primary Care Case Management program or a managed care plan if one is available in their area. Choice counseling is provided to enrollees, and the procedures outlined in the Agency's 1915 (b) Medicaid Managed Care waiver or the 1115 Florida Managed Medical Assistance Waiver (previously known as Medicaid Reform Waiver) are followed if the client does not make a selection. Table 2 details the total count of individuals enrolled through the waiver for demonstration year 8 (January 1, 2013 through December 31, 2013) by month.

Table 2 **1115 MEDS-AD Waiver** January 1, 2013 – December 31, 2013	
January 2013	**41,515**
February 2013	**41,444**
March 2013	**40,310**
April 2013	**40,176**
May 2013	**38,878**
June 2013	**37,434**
July 2013	**37,843**
August 2013	**37,165**
September 2013	**36,474**
October 2013	**36,060**
November 2013	**35,413**
December 2013	**33,880**

2. Comprehensive Medication Reviews

The comprehensive medication review focuses on the MEG 1 fee-for-service group within the waiver since these individuals are not receiving institutional care or are served by a managed care entity. The process includes an initial direct telephone contact to a recipient from a clinical pharmacist who explains the review process and invites the recipient to participate. If the recipient agrees, a call with a case reviewer is scheduled for performance of a Comprehensive Medication Review (CMR). A Medication Action Plan (MAP) is then developed. Quarterly follow-up reviews of the patient health information and claims history are performed to track the result of the review and feedback to the prescriber. The patient and prescriber are contacted again if issues or risks are identified.

Since the revision of this case review process in 2011 by the University of Florida Medication Therapy Management Communication and Call Center certain desired outcomes have been produced, such as accurate identification of the primary care provider which has facilitated the effective and timely communication of specific review recommendations to the provider. Reviewers are able to effectively gage the impact of recommendations during the quarterly follow-up process, as demonstrated in the actual changes or adjustments made by the care provider in the recipient specific health and medication profiles. Direct contact with recipients has allowed accurate gathering of health information and perceptions of outcomes. The responses and feedback from surveyed recipients who have participated in the case review process, has been overall positive. In an effort to observe the long-term impact of the reviews recipients who have completed the previous years process have been allowed to continue in this reviews for this year.

3. Data Mining Activities

The current status of initiatives resulting from the data mining activities approved for the demonstration year 8, January 1, 2013 - December 31, 2013.

There were a total of 75 Data Mining Analysis Requests (DMARs) Submitted by Medicaid Fraud Control Unit (MFCU) Staff.

- MFCU completed: 28
- Agency Denied: 11
- MFCU Denied: 2
- Approved & Assigned - In Process: 33
- Approved & In Cue for Assignment: 0
- Awaiting Agency Response: 1

V. Evaluation Activity

1. Evaluation Requirements

The Agency has contracted with Florida State University to conduct an independent evaluation of the Medication Therapy Management (MTM) program and Data Mining Activities under the waiver during the renewal period (January 1, 2011 through December 31, 2013) of the MEDS-AD section 1115 Research and Demonstration. The evaluation plan for the waiver renewal period was submitted to CMS on April 29, 2011. No deficiencies were noted, and the evaluation activities are proceeding as planned.

2. MEDS-AD MTM Program Description, Design and Initial Findings

The Medication Therapy Management (MTM) program, implemented by the University of Florida's (UF) College of Pharmacy, uses high intensity pharmacy case management services in conjunction with access to appropriate medical care for select aged and disabled individuals as a way to maintain care in the community and prevent premature institutionalization. The program is to be budget-neutral and incorporate innovative service concepts. The Special Terms and Conditions of the waiver require that the total cost of medical services and medication therapy management for persons who are enrolled in the waiver be compared with the estimated cost of institutional care that is avoided.

During the past year, the research team submitted several analyses related to the MTM program evaluation for three cohorts. The intervention period, the period of time the MTM program was utilized, for Cohort 1 (Year 1) encompassed the period from June 1, 2011 through May 31, 2012. Cohort 2 (Year 2) was June 1, 2012 through May 31, 2013, and Cohort 3 (Year 3) was June 1, 2013 through September 30, 2013. Demographic information only was examined for Cohort 3. Analyses also included a one-year pre and post intervention period for Cohorts 1 and 2. A post-intervention analysis was not completed for Cohort 3 due to the availability of data.

The MTM program's final evaluation report integrates findings across all quantitative and qualitative evaluation questions for MTM participants, MTM eligible non-participants, and a matched group (age, gender, health status, etc.) of the MTM eligible non-participants using the latest available data for inpatient, outpatient, long-term care, medical, and pharmacy claim types. See APPENDIX C for the Data Mining Activities Evaluation – Final Report.

A thorough examination of many health, utilization, and financial outcomes potentially influenced by the MTM intervention produced the following substantive findings:

- From the participants' perspectives the MTM program clearly increased their medication adherence; the encouragement of pharmacists was credited as instrumental in that adherence;
- For Cohort 1, substantial savings were seen between the pre-intervention and intervention periods in the MTM participant group compared to the MTM eligible non-participants; however, no differences in health or utilization outcomes were identified for Cohort 1; and,
- For Cohort 2, both the total number of hospitalizations and likelihood of hospitalizations declined in the participant group compared to the MTM eligible non-participant population between the pre-intervention and intervention periods.

The demonstration period for the MEDS-AD section 1115 Research and Demonstration Waiver was extended through December 31, 2014. The research team will continue to perform additional analyses for the evaluation of the demonstration period with a focus on the pre-intervention and intervention periods for all three cohorts. It was determined that analyses which included comparisons of the post-intervention period (1 year following intervention year) were not useful, as up to 45% of individuals were lost to attrition.

APPENDIX A
1 Year Temporary Extension
January 1, 2014 – December 30, 2014

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop: S2-26-12
Baltimore, Maryland 21244-1850

AUG 14 2013

Justin Senior
Deputy Secretary for Medicaid
Florida Agency for Health Care Administration
2727 Mahan Drive, Mail Stop 8
Tallahassee, FL 32308

Dear Mr. Senior:

With this letter, the Centers for Medicare & Medicaid Services (CMS) is granting a temporary extension of Florida MEDS-AD section 1115 Demonstration (Project No. 11-W-00205/4), effective January 1, 2014 until December 31, 2014. The demonstration is currently operating under the authority of section 1115(a) of the Social Security Act. The current lists of waiver and expenditure authorities and special terms and conditions will continue to apply through December 31, 2014.

CMS approval of this temporary section 1115 demonstration extension is subject to the limitations specified in the approved waiver and expenditure authorities and the list of requirements that are not applicable to the expenditure authorities. The state may deviate from the Medicaid state plan requirements only to the extent those requirements have been specifically listed as waived or not applicable to the expenditure authorities. All requirements of the Medicaid program as expressed in law, regulation, and policy statement not expressly waived or identified as not applicable shall apply to Florida's MEDS-AD program. This approval is also conditioned upon continued compliance with the enclosed special terms and conditions (STCs) defining the nature, character, and extent of federal involvement in this project. We note that, while this extension continues to include expenditure authority for Medicaid Fraud Control Unit (MFCU) data mining activities, the state currently has other authority for these expenditures, as described in a recent Department of Health and Human Services final rule issued May, 17, 2013 (78 FR 29055-29061). We expect that the state will continue with these activities, will claim its expenditures as permitted under that final rule, and will ensure that no duplicate claiming will occur.

These approvals are conditioned upon written acceptance from the state that it agrees with the amendments, expenditure authorities, and STCs. This written acceptance is needed for our records within 30 days of the date of this letter.

If you have any questions about this approval, please contact Diane Gerrits, Director for the Division of State Demonstrations and Waivers at CMS. Your project officer is Ms. Heather Hostetler. Ms. Hostetler's contact information is as follows:

Centers for Medicare & Medicaid Services
Center for Medicaid & CHIP Services
Division of State Demonstrations and Waivers
7500 Security Boulevard
Mail Stop S2-02-26
Baltimore, MD 21244-1850
Telephone: (410) 786-4515
Facsimile: (410) 786-8534
E-mail: Heather.Hostetler@cms.hhs.gov

Official communications regarding program matters should be sent simultaneously to Ms. Hostetler and to Ms. Jackie Glaze, Associate Regional Administrator in our Atlanta Regional Office. Ms. Glaze's address is:

Jackie Glaze
Centers for Medicare & Medicaid Services
Atlanta Federal Center, 4th Floor
61 Forsyth Street, SW Suite 4T20
Atlanta, GA 30303-8909
Telephone: (404) 562-7417
E-mail: Jackie.Glaze@cms.hhs.gov

Thank you for your and your staff's thoughtful work on this demonstration amendment. We look forward to a successful implementation.

Sincerely,

Eliot Fishman
Director

Enclosures

cc: Diane T. Gerrits, CMCS
Jackie Glaze, Associate Regional Administrator, Region IV
Heather Hostetler, CMCS

APPENDIX B
Withdraw of pending 6-month Medically Needy program

FLORIDA AGENCY FOR HEALTH CARE ADMINISTRATION

RICK SCOTT
GOVERNOR

ELIZABETH DUDEK
SECRETARY

August 22, 2013

Ms. Heather Hostetler
Project Officer
Centers for Medicare and Medicaid Services
7500 Security Boulevard, Mail Stop S2-01-16
Baltimore, MD 21244-1850

Dear Ms. Hostetler:

The Agency for Health Care Administration (the Agency) is withdrawing the amendment to the 1115 MEDS AD Waiver (Project No. 11-W-00205/4) that was submitted April 6, 2012, to implement the six (6) month Medically Needy program as specified in section 409.9122 (20), Florida Statutes. This request is submitted in follow up to the call held on August 8, 2013, regarding the status of the pending amendment.

The Agency is withdrawing the amendment due to time constraints with implementing and phasing out the program, prior to implementation of the Managed Medical Assistance program beginning April 2014.

Should you have any questions, please contact Linda Macdonald of my staff by phone at (850) 412-4031 or by email at Linda.Macdonald@ahca.myflorida.com.

Sincerely,

Justin M. Senior
Deputy Secretary for Medicaid

JMS/lam
cc: Jackie L. Glaze, CMS-RO

APPENDIX C
Data Mining Activities Evaluation
Final Report.

MEDS AD Waiver Evaluation:
Data Mining Activities Evaluation – Final Report

Prepared for
Florida Medicaid MED 143

Project 2, Deliverable # 17

College of Medicine
Florida State University
February 27, 2014

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EXECUTIVE SUMMARY

This report presents an evaluation of the Florida Medicaid Medications for Aged and Disabled (MEDS-AD) Demonstration Waiver: Data Mining Activities, contingent on the U. S. Department of Health and Human Services (HHS) waiver of a portion of 42 CFR 1007.19 granted on July 15, 2010. With respect to the evaluation, the initial research question is:

> **Did the Data Mining Initiative (DMI) at the Medicaid Fraud Control Unit (MFCU) of the Florida Attorney General's Office add significantly to the results of Medicaid fraud investigations in the state of Florida?**

Data mining refers to the practice of electronically sorting Medicaid Management Information Systems claims through sophisticated statistical models and intelligent technologies to uncover patterns and relationships contained within the Medicaid claims and history files. Data mining has the goal of identifying abnormal utilization and billing practices that are potentially fraudulent.

Parameters for the analyses conducted recognize that the Data Mining Initiative cannot be seen separate or isolated from all the activities conducted within the Medicaid Fraud Control Unit (MFCU) at the Attorney General's Office to detect fraud perpetrated against the Medicaid Program. Additionally, the timeframe for the analyses, October 2010 through September 2013, (i.e., Federal Fiscal Years (FFY) 2010-11 through FFY 2012-13), is rather short given the lengthy legal and administrative actions required to develop fraud recovery cases. Because of this relative short time frame, only a limited set of data proved useful for further analyses to properly represent the position of the data mining activities within the MFCU.

Both descriptive and inferential statistical techniques were used to analyze the quantitative data. In-person interviews were held with DMI stakeholders to capture more qualitative aspects of the DMI.

On average, the number of cases investigated and the amount of monies recovered by the MFCU, for the period of evaluation FFY 2010-11 through FFY 2012-13, is 893 cases investigated with $105.9 million recovered. This is similar to the average of the prior period before the waiver, FFY 2007-08 through FFY 2009-10, with 920 investigated cases and $99.9 million recovered. No monies recovered, however, can be directly attributed to the data mining activities yet, because most cases identified through data mining activities are still pending adjudication.

As a result of the analyses, this evaluation will show that:

- Data mining activity significantly added to the amount of opened new cases.
- Data mining activities (FFY 2010- to date) led to 59 MFCU complaints, of which 29 were converted to MFCU cases. Additionally, 41 data mining referrals were sent to the AHCA Bureau of Medicaid Program Integrity (MPI) by the MFCU for administrative actions, as MPI deemed appropriate and necessary, together with six direct referrals. Several data mining exercises were also provided to the MPI for informational purposes.
- The Florida Attorney General's MFCU and the Agency for Health Care Administration's Bureau of Medicaid Program Integrity (MPI) have established formidable and direct communications leading, in time, to a potential high return on investment.
- MFCU legal analysts are beginning to incorporate the opportunities provided by the Data Mining Initiative (DMI).

- A substantive finding regarding the investment in data mining is that, on average per Federal Fiscal Year (FFY) for the period of evaluation, approximately $130,000 is budgeted and less than $45,000 is actually spent on Medicaid fraud data mining with the MFCU. In addition, the total of data mining tasks over the three regional MFCU offices is less than one Full Time Equivalent (FTE) job.

- Although actual monetary recoveries cannot be linked to the Data Mining Initiative (DMI) yet, there are currently 11 cases active and/or ongoing by the data mining analysts which should yield actual returns on investment resulting from the waiver.

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Table 11: MFCU Case Statistics per Stage of Process, from Complaints to Cases ending in Settlement, Conviction, or Plea Agreement, FFY 2010-11 through FFY 2012-13

Table 12: DMI Assigned Case Statistics per Stage of Process, from Complaints to Cases ending in Settlement, Conviction, or Plea Agreement, FFY 2010-11 through FFY 2012-13

List of acronyms

AHCA = Agency for Health Care Administration

CCEB = Complex Civil Enforcement Bureau

CFR = Code of Federal Regulations

CMS = Centers for Medicare and Medicaid Services

DMAR = Data Mining Analyst Report

DMG = Data Mining Grant

DMI = Data Mining Initiative

DOH = Department of Health

DSS = Decision Support System

FDLE = Florida Department of Law Enforcement

FFP = Federal Financial Participation

FFY = Federal Fiscal Year

FL.AG = Florida Attorney General

FL.GR = Florida General Revenue/Program Income

FLEAT = Florida Law Enforcement Analyst Training

FTE = Full Time Equivalent

MEDS-AD = Medicaid Medications for Aged and Disabled

MFCU = Medicaid Fraud Control Unit

MOU = Memorandum of Understanding

MPI = Bureau of Medicaid Program Integrity

OAG = Office of the Attorney General

SCPP = Structure-Conduct-Performance-Paradigm

SFY = State Fiscal Year

YTD = Year-To-Date

1. Background and Perspective

Estimated expenditures for Fiscal Year 2012-13 (July 2012 through June 2013) are approximately $21 billion. While the vast majority of those expenditures were for services needed, some of the expenditures were the result of fraudulent or abusive billing.

Fraud can be defined as: A knowing or intentional deception or misrepresentation made by a Medicaid provider with the knowledge that the deception could result in some unauthorized benefit to oneself or some other person.

Abuse can be defined as: Provider practices that are inconsistent with generally accepted business or medical practices and that result in an unnecessary cost to the Medicaid program or in reimbursement for goods or services that are not medically necessary or that fail to meet professionally recognized standards for health care.

In Florida, the investigation of suspected Medicaid fraud is under the auspices of the Florida Attorney General (FL.AG) at its Medicaid Fraud Control Unit (MFCU), while cases of suspected abuse of the Medicaid Program are handled by the Bureau of Medicaid Program Integrity (MPI),[1] located in the Office of the Inspector General of the Florida Agency for Health Care Administration (AHCA). Staffers from AHCA, MFCU, and the Department of Health (DOH), the agency responsible for licensing professionals such as physicians and therapists, meet regularly to discuss major issues, strategies, joint projects and other matters concerning Medicaid care.

[1] Authorized by Section 409.913, Florida Statutes, MPI audits and investigates providers suspected of overbilling or defrauding Florida's Medicaid program, recovers overpayments, issues administrative sanctions and refers cases of suspected fraud for criminal investigation to the Florida Attorney Generals' Office.

Suspected fraudulent billing practices can be discovered in various ways, one of which is analysis of paid Medicaid claims using AHCA's Decision Support System (DSS), which is a subset of the Medicaid Management Information System Claims Database. Data mining is usually defined as an extension of traditional data analyses and statistical approaches, incorporating analytical techniques drawn from a range of disciplines. Data mining by itself is only a tool, since it does not eliminate the need to know the business being performed, to understand the data and the analytical methods involved; nor does it indicate a value to the results of the data mining activity. Therefore, data mining outcomes or results always need translation into meaningful information. In essence, there are two types or approaches in data mining; namely, approaches in which data is analyzed based on overall patterns or settings, and approaches seeking to identify departures from the norm. To locate these overall or specific patterns, often instructions or decision rules (also algorithms) are used. There are many data mining methodologies,[2] and all involve an assessment or evaluation of the specific approach used.[3]

As the designated "single-state-agency" responsible for administering the Florida Medicaid Program, AHCA's data mining activities are supported by federal funding through the Federal Financial Participation (FFP) program. Federal Financial Participation, however, was not previously available to support data mining activities by staff at the MFCU. The MFCU and AHCA jointly requested that this prohibition be waived. On July 15, 2010, the waiver was granted by the Centers for Medicare and Medicaid Services (CMS); Code of Federal Regulations (CFR) 1007.19.

The Florida Medicaid Medications for Aged and Disabled (MEDS-AD) demonstration waiver provides Medicaid coverage for aged or disabled residents of the State of Florida with incomes at or below 88 percent of the federal poverty level and assets at or below $5,000 for an

[2] Such as SEMMA for SAS and CRISP-DM for SPSS.
[3] For further reading see e.g. J. Jackson: Data-mining: A Conceptual Overview, Communications of the Association for Information Systems (Volume 8, 2002) 267-296, or
Chung H.M.l. and P. Gray, "Current Issues in Data-mining," Journal of Management Information Systems, forthcoming. http://www.csulb.edu/~imats/hmchung/rp1.htm

individual or $6,000 for a couple. As a result of the waiver of CFR 1007.19, the MEDS-AD waiver was amended to include activities related to data mining. In particular, the amendment states:

> Florida Statutes § 409.913(1)
> The evaluation of the MEDS-AD will be revised to include tracking of costs of data mining activities and the related recoveries or measurable cost avoidance directly attributable to analysis performed by MFCU analysts in this demonstration.
>
> The state's quarterly reporting schedule will continue, and will include the status and progress of data mining activities related to this amendment. Tracking of costs and recoveries will be submitted by the state annually within 60 days of the end of each waiver year.

On September 13, 2010, AHCA (the "Agency") and the Florida Attorney General MFCU entered into a Memorandum of Understanding (MOU) that specifies the roles and responsibilities of the two organizations relative to data mining activities. Included in the MOU are the following provisions:[4]

> Coordinate all data mining activities with the Agency, prior to commencement, to ensure actions are not duplicated.
>
> Approximately biweekly, but in no case less than monthly, designated personnel with the parties will meet in-person to discuss data mining projects.
>
> At or before such meeting, MFCU personnel will present Agency personnel with written proposals for data mining projects by the MFCU to review whether the proposed data mining objectives duplicate Agency data mining projects. Meetings will also provide an opportunity to interpret data output generated by mining projects and to exchange information regarding potential projects that will enhance the productivity and efficiency of MFCU and Agency resources.

[4] MOU Section IV.A.11 and Section VI A.2 and A.3 in particular.

By approximately the next biweekly meeting, but in any case, within one month, the Agency will provide the MFCU with written verification whether the MFCU's data mining objectives are duplicative of an existing, or recently completed, Agency data mining project. The Agency may also suggest a coordinated effort between the parties with respect to proposed data mining objectives.

In October 2010, the MFCU at the Florida Attorney General's Office commenced data mining activities.

Report Overview

This report presents an evaluation of the MEDS-AD Waiver: Data Mining Activities, contingent on the waiver CFR 1007.19. The purpose of the evaluation is to determine if activities by the Attorney General's MFCU through the MEDS-AD 1115 (a) Demonstration Waiver have resulted in the recovery of Medicaid funds that were paid as a result of fraudulent activity on the part of Medicaid providers.

A couple of considerations are noted as parameters to the evaluation. First, the Data Mining Initiative (DMI) cannot be seen apart or isolated from the activities conducted within the MFCU at the Attorney General's Office (i.e., data mining is not a separate functional unit within the MFCU). Therefore, data mining activities can only be measured in relationship to the office's overall performance (see the MFCU organizational chart in Appendix 1 where the regional offices are depicted on the left hand side of the chart. Data Mining specialists are placed within these MFCU regional offices: North -- Tallahassee, Central – Orlando, and Southern -- Miami respectively). In addition, given the MOU, this performance mutually reflects on both the Florida Attorney General's Office and AHCA. Although other state and federal agencies and/or offices may be added, the focus of this evaluation will be at the level of MFCU and on the areas of understanding between the two MOU parties; AHCA and MFCU. In particular, this evaluation

concentrates on the waiver provision regarding duplication and the opportunity to discuss, interpret and exchange information regarding potential projects enhancing the productivity and efficiency of both MFCU and AHCA's resources. Second, the evaluation only covers October 2010 through September 2013 (i.e., FFY 2010-11 through FFY 2012-13). Given that it takes time to build legal cases, sometimes long after data mining is done, results which can be traced to MFCU data mining activities under the waiver may not be readily available for the timeframe of evaluation. Third, MFCU activities related to physical abuse, neglect and financial exploitation (PANE) of patients residing in long-term care facilities are not included in this evaluation, since they do not pertain to the data mining activities.

Concerning the evaluation, data mining is recognized as a tool adding a new dimension to the work structure within the Florida Attorney General's MFCU Office, and likewise an opportunity to add to the inter-agency activities of the Attorney General's Office, AHCA, and possibly other state and federal agencies. This added tool is highly qualitative in nature, and its full impact will be recognized in time by the recovery of funds attributed to these sophisticated data analysis techniques.

In order to provide a comprehensive evaluation of the DMI waiver program, several quantitative and qualitative evaluation methods are used, each chosen for their appropriate application. These evaluation methods include: comparative analyses, attendance at key management meetings, stakeholder and key informant interviews, literature review, survey questionnaires, as well as case file reviews to gather information and develop insights for this report. In addition, repeated rounds of information requests were submitted and honored by MFCU and AHCA MPI staffs without reservation. Given that any organization or institution is represented by a set of purposeful actions and intentions by a group of individuals, available information is analyzed from a perspective of an Input-Throughput-Output-Outcome model, allowing for some measures of efficiency and effectiveness of agency resource allocation.

With respect to the evaluation of data mining activities, the principal research question is:[5]

> **Did the Data Mining Initiative (DMI) at the Medicaid Fraud Control Unit of the Florida Attorney General's Office add significantly to the results of Medicaid fraud investigations in the state of Florida?**

In principle, this demands a comparison of outcomes with and without the demonstration waiver, or as illustrated in Figure 1, including or excluding the colored field named DMI.

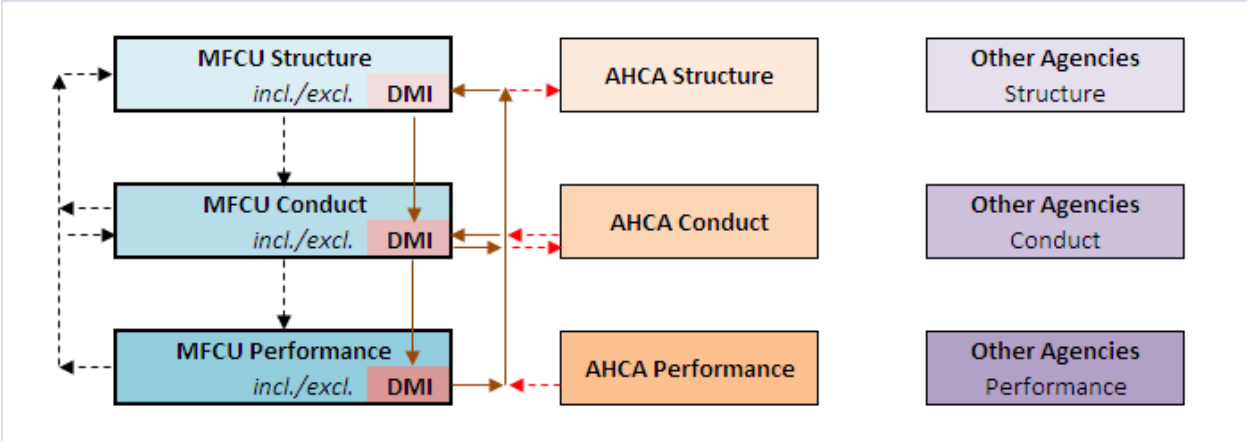


Figure 1: Structure-Conduct-Performance Paradigm (SCPP) transposed on MFCU/DMI, AHCA and Other State and or Federal Agencies

The overall framework depicted in Figure 1 is the Structure-Conduct-Performance Paradigm (SCPP) of Edward S. Mason.[6] According to this framework, an organization's performance depends on the conduct of its employees, which in turn depends on the structure of the organization. Conversely, once performance is determined or known, conduct and/or structure of the organization will, in turn, change.

[5] A stricter definition in terms of significantly adding to recovery of Medicaid funds, which are paid as a result of fraudulent activity on behalf of Medicaid providers, would have been preferable. However, it is known that no results in terms of monies recovered are reported as of yet. Therefore, a weaker definition in terms of significantly adding to the results of Medicaid fraud investigations is used instead.

[6] The paradigm was originally developed by Edward S. Mason of Harvard University, in the 1930's. Since then, it has been developed by J.S. Bain and other market structuralists in the field of Industrial Organization. It is also used in the study of Economic Systems, and in the study of Management and Organization.

In adding the Data Mining Initiative (DMI) based on the demonstration waiver and MOU, not only does MFCU's structure change, but also its organizational conduct and performance change as well. In addition, the structural relationship between MFCU and AHCA changes, as well as their respective conduct and performance. The demonstration waiver, the MOU, and in particular, the biweekly referral meetings and monthly data mining meetings enhance the productivity and efficiency of MFCU and AHCA's fraud and abuse intelligence resources. (Note: the red dashed arrows indicate the AHCA contributions at the various levels, as far as they pertain to the added DMI). Other agencies are also depicted in Figure 1, given that other agencies are part of the Medicaid network and are consulted by the MFCU as well. However, links to the other agencies are omitted since these effects fall outside the scope of this evaluation.

Both descriptive and inferential statistical techniques are used to analyze the quantitative data. Descriptive statistics are focused on the analyses of tables and the use of descriptive graphs and figures. Analytic statistics are focused on appropriate multivariate techniques, such as ordinary least squares (OLS) regression. Multivariate analyses will allow for more nuanced evaluation that can control for the introduction of the DMI. Relevant data from FFY 2007-08 through FFY 2012-13 is used, thus including data on years prior to the date that the CFR demonstration waiver was granted and data mining activities commenced. Given the limited timeframe and the use of annual data, care is required when describing the evaluation results.

In section 2, some descriptive statistics are presented relevant to the fraud investigation activities of the MFCU, including statistics on recent data mining activities. Section 3 covers significant case and referral highlights. Interviews conducted with Key Informants on the Data Mining Initiative (DMI) and data mining activities are the focus of section 4. Section 5 covers the evaluation findings. An analytic analysis is presented in Appendix 2.

2. Data Mining Activities Statistics

This section focuses on descriptive statistics based on data requests submitted to the Florida Attorney General's Office. It will cover general statistics on the Medicaid Fraud Control Unit (MFCU), as well as specific statistics relating to the data mining activities within the MFCU. The purpose of presenting statistics on both levels is to view the data mining activities in their proper relative context to the MFCU (as per Figure 1), as well as to present possible variables for the Data Mining Initiative (DMI) analyses and evaluation in section 5. This section will cover input variables (section 2.1), output variables (section 2.2), and outcome variables (section 2.3). Section 3 also provides output variables; namely, short summaries on significant cases and case referral highlights. Section 4 will cover the data mining process in further detail, based on interviews with key personnel and data mining analysts.

Figure 2 may be of help in understanding the various variable categories in their proper setting. Given the variables, comparing input and output provides a measure of efficiency, while comparing input with outcome provides a measure of effectiveness. The presentation of data will be by Federal Fiscal Year (FFY), October 1st through September 30th.

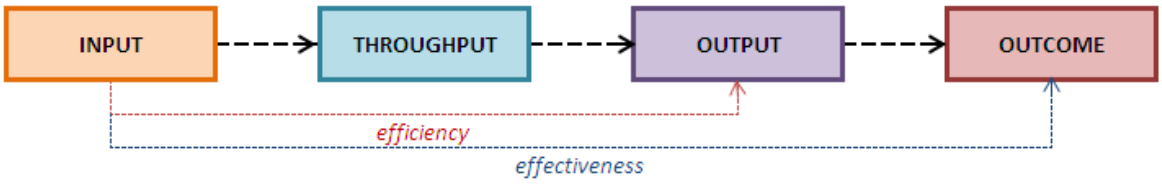


Figure 2: Input – Throughput – Output – Outcome Model

2.1 Input: Budget, FTEs, and Training

According to the requirements of federal statutes and regulations concerning Federal Financial Participation (FFP), 75 percent of funding for the MFCU is provided by means of federal grants and 25 percent are matching funds out of the State of Florida's General Revenue Fund and Program Income account. Figure 3 depicts the annual MFCU budgets, including the FFP grants and the state matching funds, for FFY 2006-07 through FFY 2012-13. In addition, the MFCU funds provided through the FFP Data Mining Grant (DMG) with matching state funds are included for FFYs 2010-11 through 2012-13.

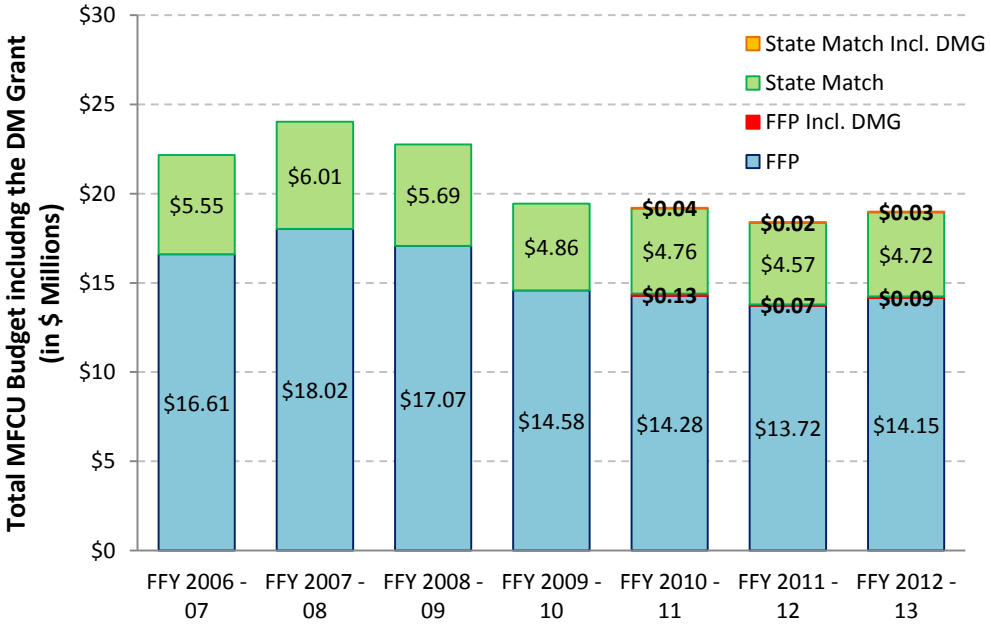


Figure 3: MFCU Budget, MFCU Grant and Data Mining Grant (Federal Financial Participation and Florida State Matching Funds), FFY 2006-07 through FFY 2012-13

As can be derived from Figure 3 data, the average annual total MFCU budget over the years depicted is $20.5 million, with $15.4 million coming from the MFCU Grant and $ 5.1 million from Florida state matching funds. The average for the period FFYs 2006-07 through FFY 2009-10 is approximately $22.1 million, while the average during the waiver evaluation period from FFY 2010-11 through FFY 2012-13 is $18.6 million. The added Data Mining Grants (both Federal Funding Participation (FFP) funds and Florida state matching funds) since FFY 2010-11 are insignificant with regard to the overall annual budget. The Data Mining Grant (DMG) adds less than one percent (approximately 0.7%) to the overall MFCU budget, and is illustrated in Figure 3a.

Figure 3a depicts the data mining budgets during the initial waiver period; including both FFP grant and Florida state matching funds, for FFY 2010-11 through FFY 2012-13.

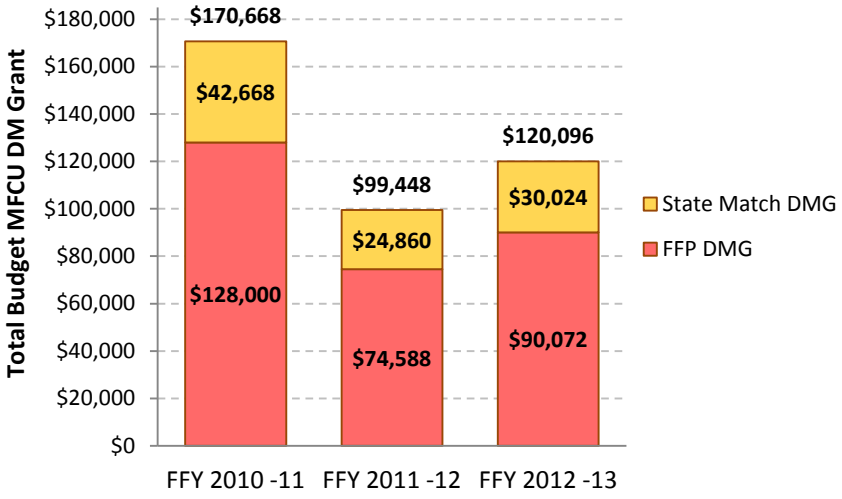


Figure 3a: MFCU Data Mining Initiative (DMI) Budget (Federal Data Mining Grant and Florida State Matching Funds), FFY 2010-11 through FFY 2012-13

The lion's share, or 52.4 percent, of the FFY 2010-11 data mining budget was allocated to "Equipment." The other two fiscal year budgets, namely FFY 2011-12 and FFY 2012-13, allocated, on average, 48.1 percent of the respective budgets to "Salaries and Benefits."

Although budgets are used as a means of measuring input, it is the actual expenditures of funds that are most relevant as a direct input measurement. Figure 4 depicts the differences between the budgets and expenditures for MFCU and Figure 4a the same for the DMI. For comparative purposes, the expenditures are shown with the budgets from Figures 3 and 3a as a backdrop. Both Figures 4 and 4a show that actual expenditures are significantly less than their respective budgets.

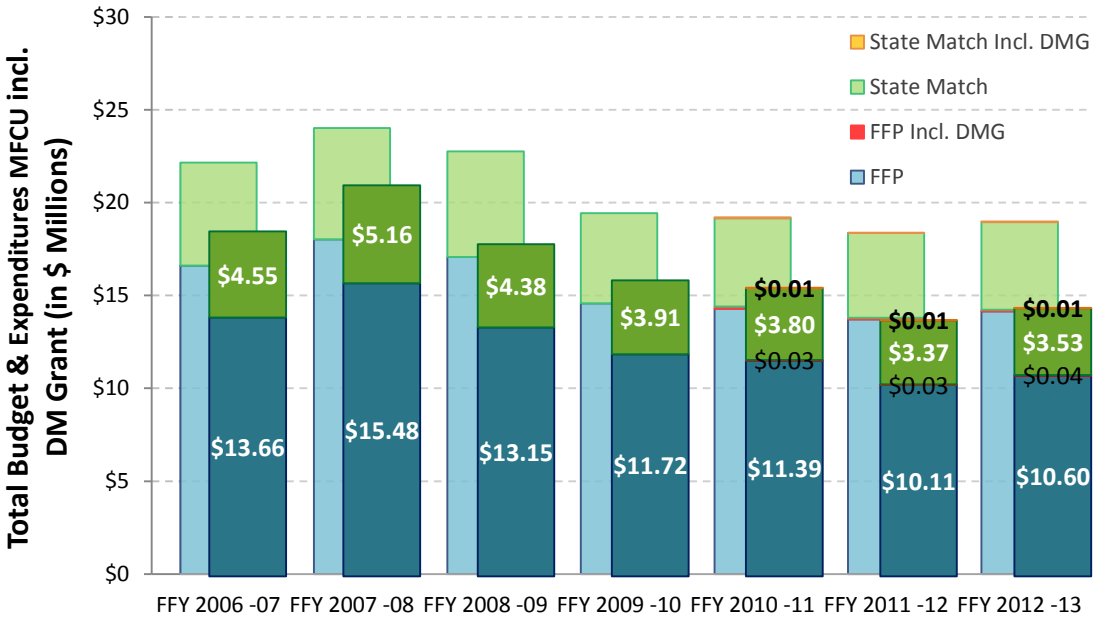


Figure 4: MFCU Budget and Expenditures, MFCU Grant and Data Mining Grant (Federal Financial Participation and State Matching Funds), FFY 2006-07 through FFY 2012-13

Total expenditures by MFCU, on average, are approximately 79.6 percent of the fiscal year budgets, with a low of 73.5 percent for FFY 2011-12. The lower level of expenditures is, in part, due to unfilled or unfunded positions within MFCU.[7]

[7] The MFCU had some unfilled staff and support positions throughout the last couple of years. Hence, the unit has been operating at less than 100% of capacity in the last three FFYs.

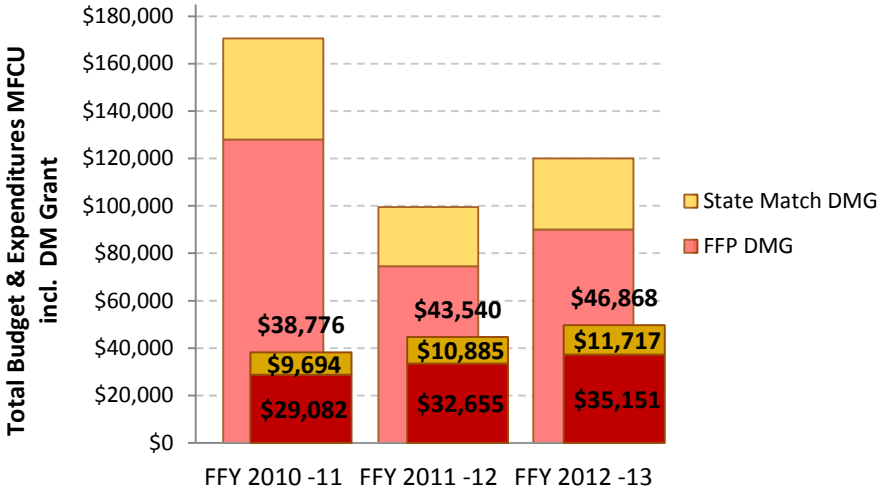


Figure 4a: MFCU Data Mining Initiative (DMI) Budget and Expenditures (Federal Data Mining Grant and Florida State Matching Funds), FFY 2010-11 through FFY 2012-13

For the Data Mining Initiative, total expenditures shown in figure 4a in FFY 2010-2011 were only $38,776, or approximately 22.7 percent of that fiscal year's total budget. For FFYs 2011-2012 and 2012-2013, expenditures were 43.8 percent and 39.0 percent, respectively. Data Line Charges are the largest cost component of DMI, constituting an average of approximately 49.7 percent, followed by Salaries and Benefits at an average of 44.5 percent. Software, Maintenance and Indirect costs cover the remainder. As indicated, the specific expenditure data on both MFCU and DMI will be used as an input variable for the evaluation in section 5.

Table 1 presents the total FTEs budgeted for the Medicaid Fraud Control Unit by employee categories. For FFY 2008-09 through FFY 2012-13, Table 1 also shows the breakdown by employee category that are unfilled or vacancies reserved by management during the evaluation period. The figures in red show the actual FTEs associated with the DMI. Table 1a provides a further regional breakdown of data mining analysts by Florida MFCU region.

Table 1: MFCU Full Time Equivalent (FTE) Employment including Data Mining Analysts, Budgeted versus Applied, FFY 2006-07 through FFY 2012-13

		FFY 2006-07	FFY 2007-08	FFY 2008-09	FFY 2009-10	FFY 2010-11	FFY 2011-12	FFY 2012-13
Total FTEs Budgeted		**232**	**232**	**232**	**217**	**214**	**210**	**210**
	Attorneys	26	26	26	27	27	27	27
	Investigators	131	131	106	101	100	97	97
	Auditors	7	7	7	7	10	10	10
	Support Staff	68	68	63	52	52	53	53
Reserve	Attorney			1	-	-	-	-
Reserve	Investigators	-	-	24	24	19	19	19
Reserve	Support Staff	-	-	5	6	6	4	4
				-30	-30	-25	-23	-23
Subtotal FTEs Applied		**232**	**232**	**202**	**187**	**189**	**187**	**187**
Data Mining Analysts Assigned FTEs (Tasks)						**0.45**	**0.75**	**0.90**
TOTAL FTEs Applied		**232**	**232**	**202**	**187**	**189.45**	**187.75**	**187.90**

Table 1a: MFCU Full Time Equivalent (FTE) Data Mining Analysts and Approximate Hours Devoted to Data Mining, per MFCU Region, FFY 2006-07 through FFY 2012-13

DATA MINING GRANT					
		Region / Hours[8] devoted to DMI			
	DMI Analysts FTEs	North Hours (%FTE)	Central Hours (%)	South Hours (%)	Total Hours (%)
FY 2010-11	**0.45**	270 (15)	270 (15)	270 (15)	810 (45)
FY 2011-12	**0.75**	450 (25)	450 (25)	450 (25)	1.350 (75)
FY 2012-13	**0.90**	450 (25)	720 (40)	450 (25)	1.620 (90)

As shown in the Tables 1 and 1a, the FTEs assigned to data mining analyst tasks represent only a small fraction of the overall MFCU employment, adding on average approximately 0.34 percent to the total MFCU employment. For evaluation purposes, it is relevant to exclude the reserve FTE positions from the input variable. In addition, it is noted that two of the three original data mining analysts with the MFCU left the office during FFY 2011-12, while a third was promoted

[8] Hours calculation based on 1,800 hours per FTE.

internally in FFY 2012-13, thus also leaving direct data mining activities. The positions were filled by existing employees who were "brought up to speed" in a relatively short timeframe.[9] Consequently, none of the three "original" data mining specialists were operative at the end of the third FFY.

As a general rule, for evaluation purposes, the input variable of data mining analyst FTEs should be adjusted to take into account these personnel departures. However, it was conveyed by MFCU staff that little to no time was lost in transition, and a qualitative judgment on differences in expertise and/or experience of data mining analysts, could not be made. Therefore, no FTE adjustments were made based on these personnel transition issues, though the data and results presented in section 5 need to be valued in light of this issue. Finally, adjustments to personnel FTEs were made with respect to training hours as described next.

During FFY 2011-12, all Medicaid Fraud Control Unit staff attended a total of 4,437.25 hours of training, while in FFY 2010-11 a total of 4,798.75 hours of training were attended. Given that there were 187 full-time employees (FTEs) assigned to the MFCU in FFY 2011-12, and 189 in FFY 2010-11, this means that, on average, approximately 23.6 and 25.3 hours in training per employee (in FTEs) per year are allocated to training. Data mining analysts, in particular, attended 653.25 hours, 189 hours and 241.5 hours in training during FFY 2010-11 through FFY 2012-13 respectively. Given that it doesn't make sense to divide the hours of training by data mining tasks (or partial FTEs), division per person delivers an average of 217.75 hours, 63 hours, and 80.5 hours respectively for the data mining analysts.[10]

The focus of the MFCU data mining analysts' training in FFY 2010-11 was primarily on criminal analytics to increase the synergy between data mining activities and the fraud-oriented work context of the MFCU; e.g., some 480 hours (or 73.5% of total training hours) were allocated

[9] Although the positions were filled, it goes without saying that some human resource value (e.g. training and experience) was lost in the process.

[10] In taking approximately 1,794 hours per year for a full FTE, as per the Bureau of Labor Statistics, this comes out at 0.1214 FTE, 0.0351 FTE and 0.0449 FTE per the fiscal years FFY 2010-11 through FFY 2012-13 respectively. Data on approximate hours retrieved from http://www.bls.gov/opub/mlr/2009/05/art1full.pdf

toward "Florida Law Enforcement Analyst Training (FLEAT)." The main batch of training hours was allocated toward Decision Support System (DSS) support contractor training (46 hours or 7.0%), followed by an Intelligence Officer Course (40 hours or 6.1%). In addition, seminars and webinars were attended. The main training providers were the Florida Department of Law Enforcement (FDLE), with 495 hours (or 75.8% of total training hours), and the AHCA, with 71 hours (or 11.3% of total training hours). Table 2 shows the top six course titles in training hours allocated in FFY 2011-12, and FFY 2012-13 respectively. As can be seen from the table, the current scope of training is more diverse as compared to the first year of training.

Table 2: Top Seven Course Titles in Time Allocation for Training of MFCU Data Mining Analysts, FFY 2011-12 and FFY 2012-13

FFY 2011-12	hours	percentage
Financial Records Examination and Analysis - FREA	32	16.9%
Criminal Interview and Interrogations	24	12.7%
Tools of the Trade-Building Elder Financial Exploitation Cases	24	12.7%
Elder Abuse Training Program	16	8.5%
Certified Law Enforcement Analyst Training Seminar	16	8.5%
Courtroom Testimony	16	8.5%
Security and Fraud Seminar - 2011	6.5	3.4%
Sub-Total	**134.5**	**71.2%**
Total Training Hours Allocated for All Courses	**189**	**100%**
FFY 2012-13		
Basic Investigations	40	16.6%
Critical Thinking and Analytical Methods (CTAM) Course	40	16.6%
Criminal Justice Information System (CJIS) Annual Training	27	11.2%
Interactions between Medicaid Fraud Control Units and Program	24	9.9%
Cyber Investigation 101 - Secure Techniques for Onsite Previewing	16	6.6%
Cyber-Investigation 105 - Basic Cell Phone Investigations	16	6.6%
CCEB Annual Training 2013	15	6.2%
Sub-Total	**178**	**73.7%**
Total Training Hours Allocated for All Courses	**241.5**	**100%**

2.2 Output: Complaints, Opened New Cases, Cases Investigated, and Disposition of Cases

Measures of output include numbers of complaints,[11] MFCU-opened new cases, MFCU fraud cases, cases investigated, and cases closed. Complaints serve as the basis for investigations done by the MFCU. For FFY 2010-11 the MFCU received 1,661 complaints and opened a total of 354 (21.3%) new cases, of which 302 (18.2%) were new fraud cases. During FFY 2011-12, the MFCU received a total of 1,317 complaints, of which 292 (22.2%) were opened as new cases and 227 (17.2%) new fraud cases. FFY 2012-13 brought in 1,530 complaints and 249 (16.3%) new cases, of which 191 (12.5%) were opened as fraud cases. Data on number of complaints (horizontal axis) versus number of opened new fraud cases (vertical axis) for the three FFYs is depicted in Figure 5.

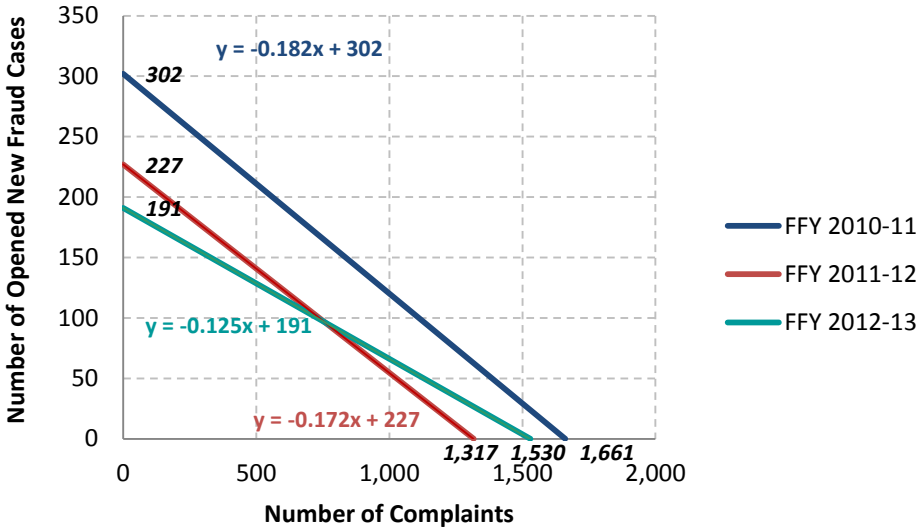


Figure 5: MFCU Opened New Fraud Cases out of Complaints, FFY 2010-11 through FFY 2011-13

[11] A complaint is an allegation that a person or provider may have committed an offense that may constitute a violation of state or Federal law.

From the data and from Figure 5, it can be observed that the year-to-year opened new cases incidence ratio (i.e., opened new fraud cases divided by complaints) rose slightly from 21.3 percent (= 354/1,661) to 22.2 percent (= 292/1,317) before dropping to 16.3 percent (= 249/1,530). Similarly, the opened new fraud cases divided by complaints declined from 18.2 percent to 17.2 percent and subsequently fell to 12.5 percent in the most recent FFY (see slope coefficients of the various lines in Figure 5). The average incidence ratio of opened new cases divided by complaints is 19.9 percent, while the same ratio on opened new fraud cases is 15.9 percent.

Table 3 provides data on the number of fraud complaints received by the MFCU.

Table 3: The Number of all Fraud Complaints Received by the MFCU, FFY 2006-07 through FFY 2012-13

Federal fiscal year	Number of Fraud Complaints Received
FFY 2006-07	498
FFY 2007-08	581
FFY 2008-09	510
FFY 2009-10	1171
FFY 2010-11	842
FFY 2011-12	707
FFY 2012-13	856

Table 4 on the next page gives an overview of the number of fraud complaints received by the MFCU, broken down by source, for FFY 2010-11 through FFY 2012-13. As shown in Table 4, the number of complaints received as a result of the MFCU Data Mining Initiative is 27, 16, and 16 (or 3.2%, 2.3% and 1.9%) respectively for the three FFYs. Shading is provided to highlight the

major sources (green) and minor sources (red). Table 4a provides a selection of the same data; i.e., the top eight sources of fraud complaints, with the MFCU Data Mining Initiative ranking as the eighth largest source, based on relative averages for the three years FFY 2010-11 through FFY 2012-13.

Table 4: The Number of all Fraud Complaints Received by the MFCU, Broken Down by Source, FFY 2010-11 through FFY 2012-13

	FFY 2010-11	FFY 2011-12	FFY 2012-13		FFY 2010-11	FFY 2011-12	FFY 2012-13
AHCA - District Office	7	1	1	FBI - Federal Bureau of Investigations	4		3
AHCA - Fraud Prevention & Compliance Unit (FPCU)	2	8	1	FDLE - Florida Dept. of Law Enforcement	2		1
AHCA - Health Quality Assurance	13	8	9	Government Employee	2	1	2
AHCA - Medicaid Program Integrity	61	30	25	HHS - Health & Human Services	5	4	
AHCA - Office of Inspector General	3	3		HHS - OIG Health & Human Services Inspector General	11	7	9
AHCA - Other Units	3	1					
AHCA - Third Party Liability/Recovery	1		1	HMO - Investigative Unit	11	5	2
Anonymous	13			Insurance Company	2	1	
APD - Agency for Persons with Disabilities	20	10	10	Joint Task Force	4	1	1
APS - Adult Protective Services	17	5	4	Law Enforcement Agency	7	7	3
Citizen	301	198	143	Medicaid Provider	28	21	44
CMS - Center for Medicare & Medicaid Services	2			Medicaid Recipient	50	108	225
Confidential Informant	6	3		MFCU - Other than Florida	4	3	1
Consumer Protection Agency	1		1	MFCU - Statewide Intel Team	2		
Contractor for Center for Medicare & Medicaid	7	8	1	**MFCU Data Mining Initiative**	**27**	**16**	**16**
County Health Department		1		NAAG - National Association of Attorney Generals	1	1	
DEA - U.S. Drug Enforcement Agency			1	NAMFCU - National Association of MFCU			
Dept. of Children & Families - Inspector General Office	1			Non-Profit Organization			1
				Operation Spot Check		1	
Dept. of Children & Families - Other than APS	1	4		OSWP - Office of Statewide Prosecution		1	
Dept. of Elder Affairs	1			Press Report	2	4	
DOH - Dept. of Health	1	2	1	Qui Tam	127	80	119
DOH - Medical Quality Assurance	1	2		Social Security Administration (SSA)	1	20	
DOJ - Dept. of Justice	3			Spinoff Case	31		18
DPAF Public Assistance Fraud		1		State Agency - Other	2		2
Elected Official	2			State Attorney's Office (SAO)	1		
Employee	29	58	63	U.S. Attorney's Office (USAO)		1	
Family Member	22	82	147	Veteran Affairs			1
Transport				**Total Number of Complaints**	**842**	**707**	**856**

Table 4a: The Top Eight Sources by Number of all Fraud Complaints Received by the MFCU, Broken Down by Source, FFY 2010-11 through FFY 2012-13

	FFY 2010-11	FFY 2011-12	FFY 2012-13	Total FFY 2010-11 through FFY 2012-13	Average Percentage FFY 2010-11 through FFY 2012-13
Citizen	301	198	143	**642**	**26.7%**
Medicaid Recipient	50	108	225	**383**	**15.9%**
Qui Tam	127	80	119	**326**	**13.6%**
Family Member	22	82	147	**251**	**10.4%**
Employee	29	58	63	**150**	**6.2%**
AHCA - Medicaid Program Integrity	61	30	25	**116**	**4.8%**
Medicaid Provider	28	21	44	**93**	**3.9%**
MFCU Data Mining Initiative	**27**	**16**	**16**	**59**	**2.5%**
Sub-Total	**645**	**593**	**782**	**2,020**	**84.0%**
All Other	**197**	**114**	**74**	**385**	**16.0%**
Total Number of Complaints	**842**	**707**	**856**	**2,405**	**100.0%**

Table 5 shows the top five sources of fraud complaints received by the MFCU by provider, FFY 2010-11 through FFY 2012-13.

Table 5: Top Five Provider Types in Number of MFCU Fraud Complaints, FFY 2010-11 through FFY 2012-13

Provider Type*	Number of MFCU Fraud Complaints Per Provider Type Top 5	Cumulative Percentage of Total Top 5
FFY 2010-11		
Physician (MD)	153	18%
Home and Community Based Service	111	31%
Pharmaceutical Manufacturer	92	42%
Pharmacy	64	50%
None*	43	55%
Other	**379**	**100%**
TOTAL FFY	**842**	
FFY 2011-12		
Physician (MD)	123	17%
Home and Community Based Service	99	31%
Pharmacy	64	40%
None*	48	47%
Dentist	46	54%
Other	**327**	**100%**
TOTAL FFY	**707**	
FFY 2012-13		
Physician (MD)	162	19%
Dentist	72	27%
Pharmacy	69	35%
General Hospital	65	43%
Home and Community Based Service	58	50%
Other	**430**	**100%**
TOTAL FFY	**856**	

* No Provider Type assigned

Table 5 indicates that the provider type category "Physician (MD)" ranks highest in terms of number of MFCU fraud complaints received for the three years depicted (18%, 17% and 19% of all complaints received respectively). Next, both "Home and Community Based Services" (13%, 14% and 7% respectively), and "Pharmacy" (8%, 9% and 8% respectively), show up in the top

five of the three years considered. The last column of Table 5 provides cumulative percentages on the top sources represented, showing that the top five providers represent a cumulative 55 percent, 54 percent and 50 percent, respectively, of the total number of all fraud complaints received during the three years considered. Table 6 shows the top three sources of fraud complaints by provider type, where the source was the MFCU Data Mining Initiative (DMI).

Table 6: Provider Types in Number of Assigned DMI Fraud Complaints, FFY 2010-11 through FFY 2012-13

Provider Type	Number of DMI Fraud Complaints Per Provider Type	**Cumulative Percentage of Total**
FFY 2010-11		
Physician (MD)	21	78%
Physician (DO)	4	93%
Therapist (PT, OT, ST, RT)	2	100%
	27	
FFY 2011-12		
Home and Community Based Service	12	75%
Therapist (PT, OT, ST, RT)	3	94%
Physician (MD)	1	100%
	16	
FFY 2012-13		
Dentist	12	75%
Physician (MD)	3	94%
Therapist (PT, OT, ST, RT)	1	100%
	16	

For the Data Mining Initiative (DMI), the largest provider category in number of fraud complaints was “Physician (MD)” with 25 fraud complaints in total over the three FFYs. Next, both categories “Home and Community Based Service” and “Dentist”, each come out with 12 fraud complaints over the FFYs.

Of complaints mentioned, only a subset may be elevated to investigative case status. Table 7 provides information on MFCU cases investigated and opened new cases by source (sources defined per agency/category), FFY 2006-07 through FFY 2012-13.

Table 7: MFCU Cases Investigated and Cases Opened by Source, FFY 2006-07 through FFY 2012-13

	Federal Fiscal Years						
	FFY 2006-07	FFY 2007-08	FFY 2008-09	FFY 2009-10	FFY 2010-11	FFY 2011-12	FFY 2012-13
Caseload*	927	922	927	906	930	872	877
Cases: Opened New During FFY	253	302	269	313	303	227	191
Cases: Sources of New Opened Cases (sources defined by agency):							
AHCA - Medicaid Program Integrity	77	122	51	43	33	19	12
Other AHCA	2	4	20	9	13	5	2
MFCU	14	2	31	1		2	0
MFCU Data Mining Initiative					**12**	**14**	**3**
Qui Tam	27	61	64	99	135	84	117
Private Sector	82	51	37	88	55	70	37
Spin-off Cases	5	22	26	28	9	10	3
Law Enforcement Florida	10	3	5	5	9	8	3
Other State Agencies	31	36	22	28	23	8	8
Law Enforcement Federal	2		3	2	1	2	3
Other Federal Agencies	3	1	10	10	13	5	3

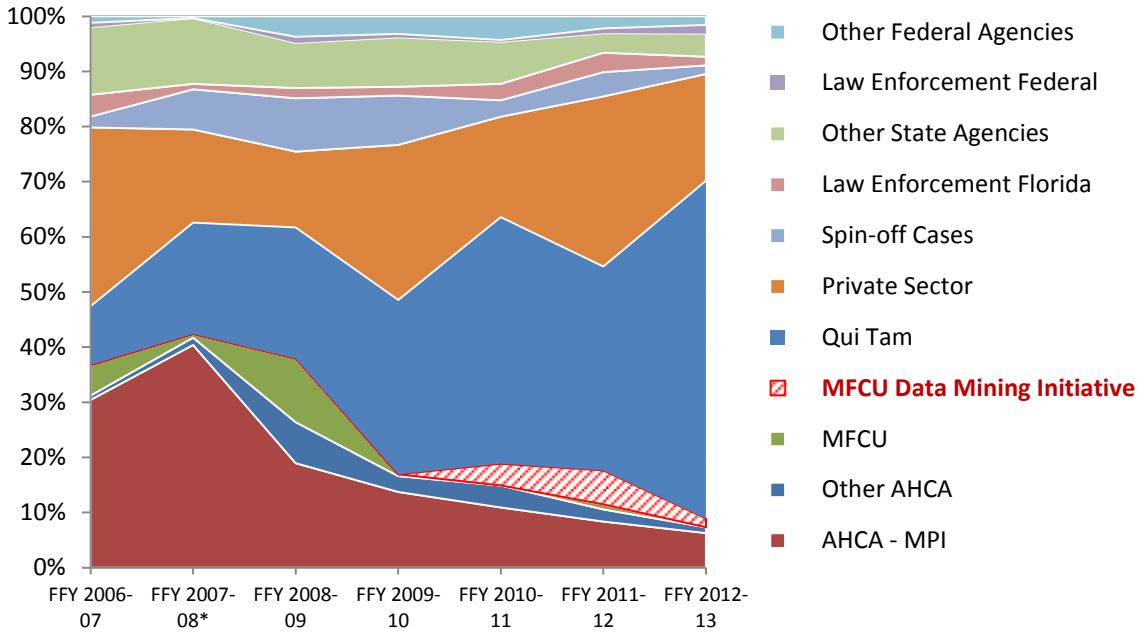
*Caseload is a snapshot of the number of cases on the last day of the Federal fiscal year.

As per Table 7, the average number of cases investigated is approximately 909 cases per year for the seven year period shown and 893 for the period FFY 2010-11 through FFY 2012-13. Similarly, on average approximately 282 new fraud cases are opened during a fiscal year, and 279 for the last three federal fiscal years (or 278 and 270 respectively based on the geometric mean).[12] Shading is provided to highlight the major sources (green) and minor sources (red).

[12] The geometric mean of a set of n positive numbers is obtained by taking the n^{th} root of the product of the same numbers: the geometric mean of 2, 4 and 1 is $\sqrt[3]{8} = 2$. The geometric mean tends to dampen the effect of very high or low values, which might bias the straight average or arithmetic mean.

The major sources of new opened cases are *qui tam*[13] and Private Sector sources (e.g., citizens, employees, providers, recipients, contractors, media), at a relative average of approximately 31.6 percent and 22.6 percent respectively. The third largest source of opened new cases is AHCA, with a relative average of approximately 22.1 percent (19.2% and 2.9% for AHCA-Medicaid Program Integrity and Other AHCA respectively). MFCU comes in at a relative average of approximately 2.7 percent of opened new cases over the years, with DMI (based on FFY 2010-11 through FFY 2012-13) at 4.0 percent. DMI added 3.4 percent (= 12/354 x 100%) to the sub-total of opened new cases in FFY 2010-11, 4.8 percent (= 14/292 x100%) of opened new cases in FFY 2011-12, and 1.6 percent (= 3/191 x 100%) of opened new cases in FFY 2012-13. Complaints are, by far, the prime driver of new activities. The same data as Table 7, on opened new cases by MFCU per source, is depicted in Figure 6 in relative terms.

[13] Qui tam is a lawsuit brought by a private citizen (popularly called a "whistle blower") against a person or company who is believed to have violated the law in the performance of a contract with the government or in violation of a government regulation, when there is a statute which provides for a penalty for such violations. Qui tam suits are brought for "the government as well as the plaintiff." In a *qui tam* action the plaintiff (the person bringing the suit) will be entitled to a percentage of the recovery of the penalty (which may include large amounts for breach of contract) as a reward for exposing the wrongdoing and recovering funds for the government. Sometimes the federal or state government will intervene and become a party to the suit in order to guarantee success and be part of any negotiations and conduct of the case. This type of action is generally based on significant violations which involve fraudulent or criminal acts, and not technical violations and/or errors. http://dictionary.law.com/default.aspx?selected=1709



* In FFY 2007-08, biweekly briefings began between AHCA MPI and MFCU with an emphasis on the quality of referrals being made to MFCU.

Figure 6: Relative Shares of Opened New Cases by Source, FFY 2006-2007 through FFY 2012-13

Table 8 provides a further breakdown on opened new cases by region; DMI opened new cases versus all other sources of opened new cases, FFY 2010-11 through FFY 2012-13.

Table 8: Opened New Cases by Region; DMI and Other Sources, FFY 2010-11 through FFY 2012-13

	FFY 2010-11		FFY 2011-12		FFY 2012-13		Total	
Central DMI opened	7	58.3%	6	42.9%	3	100%	16	55.1%
Other opened	54	34.8%	47	37.9%	25	35.7%	126	36.1%
Northern DMI opened	3	25.0%	7	50.0%	0	0.0%	10	34.5%
Other opened	56	36.1%	42	33.9%	21	30.0%	119	34.1%
Southern DMI opened	2	16.7%	1	7.1%	0	0.0%	3	10.3%
Other opened	45	29.0%	35	28.2%	24	29.3%	104	29.8%
Total DMI opened	**12**		**14**		**3**		**29**	
Total Other opened	**155**		**124**		**70**		**349**	
Total CCEB	135		89		118		342	
Grand Total	**302**		**227**		**191**		**720**	

Table 8 shows the number of DMI-attributed opened new cases by region and all other sources opened new cases, adding to the total in the last rows of the table. As can be observed in Table 8, the Complex Civil Enforcement Bureau (CCEB) is the largest source for opened new cases, with a relative average of 47.5 percent (342/720) of total MFCU opened new cases for FFY 2010-11 through FFY 2012-13. The spread of opened new cases over the MFCU regions is quite even, with Central Florida at a relative average of 19.7 percent ((16+126)/720), North Florida at 17.9 percent ((10+119)/720), and South Florida at 14.9 percent ((3+104)/720). The presented percentages show relative shares of opened new cases per region, excluding the CCEB opened new cases (e.g., 7/12 = 58.3%; 54/155 = 34.8%, et cetera). The relative shares indicated in red, show that the regional DMIs added relatively more out of the DMI-opened new cases to the region, than did all other sources. The variable "opened new cases" will be used for evaluation purposes in section 5.

Table 9 provides a list of the top five Medicaid Provider types for Medicaid fraud ranked from most to least frequency of fraud.

Table 9: Top Five of Medicaid Fraud Cases by Provider Type, FFY 2010-11 through FFY 2012-13

Fraud Cases Opened by Provider Type		
FFY 2010-11	FFY 2011-12	FFY 2012-13
• Pharmaceutical Manufacturers • Home & Community Based Services • Physicians (MD) • Pharmacy • General Hospital / Therapist	• Home & Community Based Services • Pharmaceutical Manufacturers • Physicians (MD) • Pharmacy • Medical Equipment Manufacturer	• Physicians (MD) • Dentist • Pharmacy • General Hospital • Home & Community Based Services

From Table 9, it can be observed that Home and Community Based Services, and Physicians (MD), lead in the number of opened new fraud cases according to rank, followed by Pharmacy. Of cases attributed to the DMI, the main categories of opened cases by provider type are: Physicians (MD), Physicians (DO), Therapists, Home and Community-Based Services, and Dentists. Given that cases by provider type can only be measured in frequency or rank number, this variable will not be used for further evaluation in section 5.

Table 10 gives an overview of the disposition of MFCU cases closed, as well as the subset of cases closed attributed to the Data Mining Initiative (DMI), FFY 2010-11 through FFY 2012-13. Shading is provided to highlight the major sources (green) and minor sources (red).

Table 10: Disposition of MFCU Closed Fraud Cases and Subset of Closed Cases Attributed to the Data Mining Initiative, FFY 2010-11 through FFY 2012-13

Cases: Disposition of Closed Cases	MFCU			of which: DMI		
	FFY 2010-11	FFY 2011-12	FFY 2012-13	FFY 2010-11	FFY 2011-12	FFY 2012-13
Administrative Closure	32	2	9			
Administrative Referral	65	55	49	1	2	3
Assistance to Other Agencies		1	11		1	1
Case Dismissed	22	11	28			
Case Remanded	3					
Civil Intervention Declined	5	1	2			
Civil Judgment	2	2	1			
Civil Settlement	45	14	37			
Consolidated	16	3	11			
Conviction	24	9	11			
Defendant Deceased			1			
Deferred Prosecution Agreement			1			
Defendant filed Bankruptcy	1					
Fugitive Defendant			16			
Lack of evidence	28	23	37	4	3	4
Nolle Prosequi	2		1			
Plea Agreement	7	10	25			
Pretrial Intervention	3	2	6			
Probation			11			
Prosecution declined		6	9			
Resolved with Intervention	1	2	1			
Unfounded	18	25	27		1	3
Voluntary Dismissal	11	21	36			
Grand Total Closed Cases	**285**	**187**	**330**	**5**	**7**	**11**

As can be observed from the table, only a subset of MFCU cases lead to civil settlements, convictions, or plea agreements. Over the three Federal fiscal years shown, these categories add up to 182 cases or 23.0 percent of the total number of cases. Next is the category "Administrative Referral" with a total of 169 cases or 21.4 percent of MFCU cases, Civil Settlement with 96 cases or 12.2 percent and Lack of Evidence with 88 cases or 11.1 percent. For the DMI, the Lack of Evidence category is the prime reason for disposition or 47.8 percent of the cases over the three years. The second reason for disposition is Administrative Referral in 26.1 percent of cases and third is Unfounded in 17.4 percent of the cases. Given that the

disposition of cases closed can only be measured in frequency or rank number, this variable will not be used for further evaluation in section 5.

2.3 Outcomes: Monies Recovered

A longer term perspective on outcomes of activities by the MFCU, in terms of total amount of the monies recovered, is presented in Figure 7. The compound rate of growth in the amount of recoveries, over the years depicted, is approximately 10.0 percent annually.

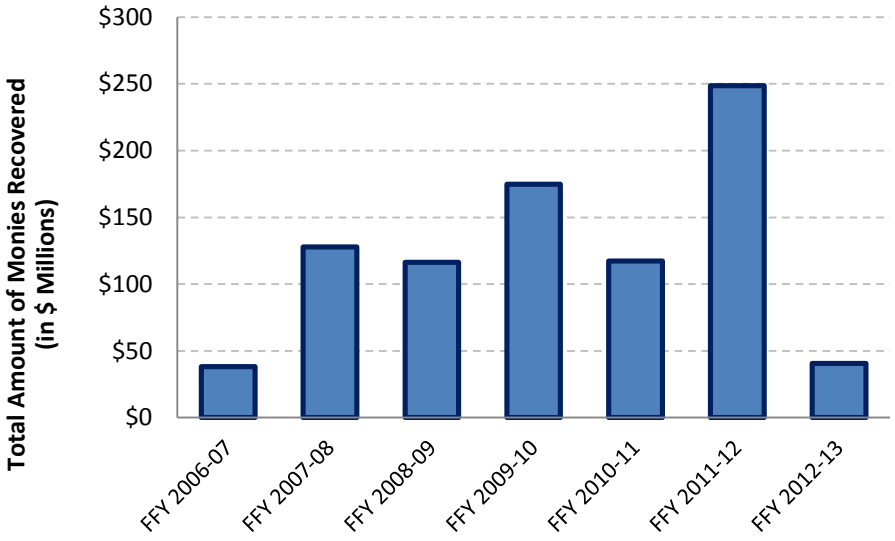


Figure 7: Total Amount of Monies Recovered by MFCU, FFY 2006-07 through FFY 2012-13

Figure 8 compares the number of cases investigated (horizontal axis) to the total amount of monies recovered (vertical axis) by MFCU.[14]

[14] Figure 8 and relevant narrative still based on state fiscal year (SFY).

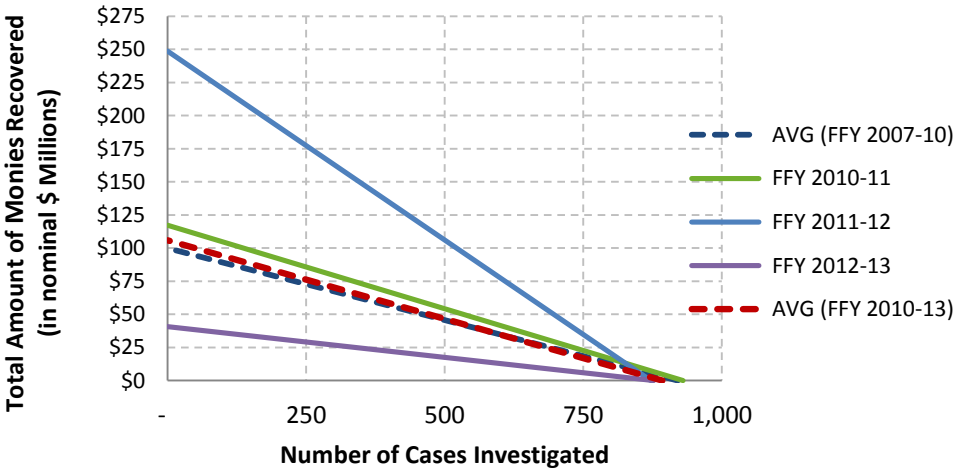


Figure 8: Number of Cases Investigated Relative to the Total Amount of Monies Recovered in Millions, Average FFY 2007-10, FFY 2010-11 through FFY 2012-13

In FFY 2010-2011, MFCU recovered a total of $117.3 million on 930 investigated cases. Similarly for FFY 2011-12, the number of cases investigated is 872, while the total sum of monies recovered came in at $248.7 million. For FFY 2012-13 the number of cases investigated was 893 with a total value in recoveries of $105.9 million. As can be evidenced from Figure 8, the number of cases investigated remains rather stable, with an overall average of 908 cases (horizontal axis), while the monies recovered show a wide spread in outcomes (vertical axis) on a year-to-year basis. Taken on average, the amount of value recovered for the FFY periods from FFY 2006-07 through FFY 2009-10 as compared to FFY 2010-11 through FFY 2012-13 show almost similar outcomes. The blue bold dashed line in Figure 8 represents the average ratio[15] of Total Amount of Monies Recovered divided by Investigated Cases for the FFYs 2006-07 through FFY 2009-10, with 920 cases and $99.9 million in total recoveries, resulting in an average per case value of $108,560. Similarly, the bold red dashed line represents the average ratio of monies retrieved during the waiver evaluation period for FFY 2010-11 through FFY 2012-13,

[15] Geometric averages are used.

with an average of 893 cases investigated at a total value of $105.9 million, or an average per case value of $118,628. In comparing the two periods, the number of cases investigated dropped 3.0 percent, while the total value of monies recovered rose by 6.0 percent, which effectively means a rise of 9.3 percent of value recovered per case investigated during the waiver evaluation timeframe.

Figure 9 depicts the total amount of monies recovered per FFY 2006-07 through FFY 2012-13 relative or next to the respective Federal Grant Expenditures (Fed Share). In FFY 2010-11, the total amount of monies recovered by the MFCU was $117.3 million. Part of the recoveries generated through penalties imposed and interest charged were deposited into the State of Florida's General Revenue Fund. For FFY 2011-12, $248.7 million was recovered by the state, while the total amount of monies recovered for FFY 2012-13 was $40.7 million. None of the recoveries can be attributed to the Data Mining Initiative.

Figure 9: Total Amounts of Monies Recovered and Federal Grant Expenditures, FFY 2006-07 through FFY 2012-13

In FFY 2012-13, for every Federal Financial Participation (FFP) dollar spent, the MFCU generated approximately $4.03 in total recoveries. Similarly, the same return on FFP dollars spent for FFY 2011-12 was approximately $24.53 in total recoveries, and for FFY 2010-11 approximately $10.27.

3. Significant Case Highlights – Case and Referral Summaries

This section covers significant case and referral highlights of cases attributed to the DMI initiative. Next to titles and Data Mining Analyst Report (DMAR) numbers, short summaries are given on the cases, objectives, data of service range and conclusions. A few cases led to more than one MFCU case. Some cases are disposed and others are active and ongoing.

Nursing Home Project – Recipients vs. Beds– DMAR-011

Objective: The objective of this data mining analysis was to identify nursing homes that are billing for more recipients than the licensed allowed amount of beds.

Date of Service Range: 1/1/2009 – 5/14/2013

Conclusion: Two MFCU complaints were opened to further investigate an apparent excess of recipients (beds) than license allows.

Pill Mill Analysis: Oxycodone 15/30mg (Prescribers) – DMAR-013

Objective: The objective of this data mining analysis was to identify those practitioners who were prescribing high volumes of Oxycodone 15mg and 30mg tablets within the Florida Medicaid program while lacking medical claims to support such prescribing. The focus on the 15mg and 30mg tablets was necessary as it has been confirmed by the Florida Department of Law Enforcement (FDLE) that these are the drugs of interest in reference to the newly developed “Strike Force” within the state of Florida that has been charged with pursuing Florida’s current “pill mill” clinic and prescription drug criminal activity.

Date of Service Range: 1/1/2009 – 4/11/2011

Conclusion: The identification of top Oxycodone prescribers led to the opening of 22 MFCU Complaints and five standard referrals to AHCA MPI in which AHCA took action and subsequently terminated over 400 prescribers' rights. Fourteen of the 22 MFCU complaints were converted to MFCU cases and six remain active (ongoing active investigations).

Spinal Fusion Analysis – DMAR-015

Objective: To identify those Medicaid recipients with higher occurrences of spinal fusion procedures within the Florida Medicaid claims data and to determine possible physician outliers within the Medicaid program for further investigation of fraudulent or medically unnecessary treatments.

Date of Service Range: 07/01/2008 – 03/31/2011

Conclusion: Three MFCU complaints were opened to further investigate an apparent excess of services provided to recipients. Two were converted to MFCU cases and one remains active (ongoing active investigations).

Hemophilia Analysis– DMAR-016

Objective: This data mining initiative involved identifying drugs utilized for the treatment of hemophilia and identifying outliers billing for these pharmaceuticals.

Date of Service Range: 1/1/2009 – 10/31/2012

Conclusion: One MFCU Complaint was opened and five administrative referrals were made to AHCA as a result of this DMAR. The MFCU complaint was closed as unfounded when the investigation revealed that there was a clerical error on the part of the pharmacy entering the doctor's license number incorrectly.

Personal Care Assistance (PCA) Services – DMAR-020

Objective: To conduct an analysis of Personal Care Assistance services for the Developmentally Disabled (DD) under the Medicaid Waiver services program to identify outlier providers who may be overbilling.

Date of Service Range: 1/1/2009 – 6/30/2011

Conclusion: This data mining initiative identified four provider outliers that were opened as MFCU complaints with two additional outliers already under active investigation by the MFCU. There were eight other provider outliers that were determined to be insignificant with one outlier that is being referred to AHCA due to a possible overpayment. Three of the MFCU complaints were converted to MFCU cases and two remain active (ongoing active investigations).

Speech Therapy Services – DMAR-021

Objective: To conduct an analysis of Speech Therapy Services for the Developmentally Disabled (DD) under the Medicaid Waiver services program and the Medicaid program to identify outliers who bill in excess of 8 units per day (DD Waiver), or in excess of 4 units per day (Speech Therapy Services "State Plan"), or for services rendered to recipients age 21 and over.

Date of Service Range: 1/1/2009 – 6/30/2011

Conclusion: Nine providers were identified as being outliers; three were opened as MFCU complaints and six were referred to AHCA MPI as standard referrals (ongoing active investigations).

Obstetrical (OB) Urinalysis Unbundled – DMAR-025

Objective: The objective was to identify unbundled urinalysis procedure codes for Obstetrical Care Services.

Date of Service Range: 1/1/2008 – 6/30/2011

Conclusion: This data mining initiative identified four providers as being outliers for which the MFCU opened an umbrella complaint. An "umbrella complaint" is one complaint opened that pertains to several providers. The OB Urinalysis Unbundled complaint has since been converted to a MFCU case and is an ongoing investigation (ongoing active investigations).

Respite Care Duplication of Services – DMAR-039

Objective: To identify provider outliers billing Respite Care services at the same time as Personal Care services, as this is a violation of Medicaid Policy.

Date of Service Range: 1/1/2008 – 6/30/2011

Conclusion: The MFCU opened six complaints pertaining to this analysis and one separate case was previously opened prior to the initiative. Two of the MFCU complaints were converted to cases and one case remains active. Additionally, four providers were referred to AHCA MPI as standard referrals (ongoing active investigations).

Dental Area Standard – DMAR-040

Objective: Determine an Area Standard based on all dental provider type claims. This standard will be set by the percentage of claims by each procedure code. The goal is to determine if the standard percentages are in line with what is being billed/paid in each county.

Date of Service Range: 1/1/2011 – 6/30/2011 and 1/1/2012 – 6/30/2012

Conclusion: This data mining initiative identified several providers who exceeded the standard deviations from the norm. The MFCU opened eight complaints for investigation. Four complaints are currently active in which two were converted to MFCU cases and are ongoing

investigations with one of the complaints being consolidated with another MFCU active investigation (ongoing active investigations).

Zyprexa Dispensing – DMAR-044

Objective: To identify the top dispensers of Zyprexa and subsequently top prescribers who may be prescribing this expensive drug unnecessarily.

Date of Service Range: 1/1/2008 – 12/31/2010

Conclusion: The MFCU opened two complaints pertaining to this analysis and two providers were referred to AHCA MPI for further review. One of these complaints is still active (ongoing active investigations).

Therapy Services with NO Assistant Codes – DMAR-050

Objective: To identify those therapy providers that bill and are reimbursed for therapy services without any assistant codes identified in the claim population. This is a possible indicator of up-coding and/or unqualified or screened staff servicing Medicaid recipients.

Date of Service Range: 7/1/2008 – 6/30/2011

Conclusion: Multiple outliers were identified leading to the opening of one MFCU complaint, with two standard referrals to MPI AHCA and seven Information only referrals to MPI AHCA. Four other outliers were identified who have been or are subjects of active MFCU investigations. The MFCU complaint was converted to a case and remains an active investigation (ongoing active investigations).

Dental Analysis: Sealants vs. Single Surface Fillings – DMAR-051

Objective: To determine and identify those providers that bill in excess of D2391 single surface fillings in comparison to D1351 sealants, as single fillings are reimbursed at a higher rate. This is an up-coding scenario.

Date of Service Range: 7/1/2008 – 12/31/2011

Conclusion: The MFCU opened three complaints pertaining to this analysis and made six standard referrals and 16 Information Only referrals to MPI AHCA. One of the complaints was converted to an MFCU case which is active. Another complaint was referred to AHCA-MPI for medical record review and possible civil recoupment. The third complaint remains active.

Diagnosis 7795 Study and Analysis – DMAR-053

Objective: To identify those Medicaid recipients who have associated claims related to diagnosis code 7795, Newborn Withdrawal Syndrome, then track to associated mother's prescribing activity in an effort to identify outlier prescribers that prescribe highly abusive and addictive prescription drugs to pregnant women.

Date of Service Range: 1/1/08 – 1/17/2012

Conclusion: The MFCU opened one complaint pertaining to this analysis and made two standard referrals to MPI AHCA. This analysis has led to a secondary study which has been approved by AHCA and is in process at the MFCU (ongoing active investigations).

Referrals Only

- **Stents Analysis – DMAR-010**

Objective: Review of stent procedure codes 92980 (Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; single vessel) and 92981 (Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; each additional vessel) to determine if there were providers billing these codes without the necessary or appropriate diagnosis codes.

Date of Service Range: 01/01/2007 – 12/31/2010

Conclusion: The top six treating provider outliers for stent procedures were sent to AHCA MPI for actions as they deem appropriate.

- **Respiratory Therapy Services – DMAR-022**

Objective: To conduct an analysis of Respiratory Therapy Services for the Developmentally Disabled (DD) under the Medicaid Waiver services and Medicaid program to identify the outliers of utilization for Respiratory Therapy Services and/or procedure codes.

Date of Service Range: 1/1/2009 – 2/16/2012

Conclusion: There were no findings of concern. Results were referred to AHCA MPI for informational purposes only.

- **OB Hematology Unbundled – DMAR-028**

Objective: The objective is to identify unbundled hemoglobin and hematocrit procedure codes for Obstetrical Care services.

Date of Service Range: 1/1/08 – 6/30/2011

Conclusion: Results identified one provider as an outlier and a standard referral was sent to AHCA MPI.

- **OB Drug Screen Unbundled – DMAR-029**

Objective: The objective is to identify an unbundled Obstetrical Drug Screen procedure code for Obstetrical Care services.

Date of Service Range: 1/1/2008 – 6/30/2011

Conclusion: There were no findings of concern. Results were referred to AHCA MPI for informational purposes only.

- **Chiropractic Manipulative Treatment 5 Regions – DMAR-031**

Objective: To identify outliers within the Chiropractic provider specialty type who are possibly up-coding from regular office visits to treatment for each of the five spinal regions.

Date of Service Range: 1/1/2008 – 6/30/2011

Conclusion: Standard referrals regarding two outliers were reported to AHCA MPI for further review.

- **OB 626 Diagnosis Urinalysis - DMAR-033**

Objective: The objective is to identify procedure codes for Obstetrical Care services that may be padded, unbundled, or up coded. Billing for labs and/or evaluation and management procedure codes where initial prenatal Obstetrical Care services would be the service provided.
Date of Service Range: 1/1/2009 – 9/14/2011
Conclusion: There were no findings of concern. Results were referred to AHCA MPI for informational purposes only.

- **S5100U2 Analysis – DMAR-035**

Objective: To identify those Medicaid providers by MFCU who were billing the maximum units of service per day per recipient for procedure code S5100U2 (Adult Day Health Care).
Date of Service Range: 1/1/2008 – 6/30/2011
Conclusion: Four providers were identified who bill the maximum units of service per day for multiple recipients and were referred to AHCA MPI as standard referrals.

- **Power Wheelchairs and Power-Operated Vehicles (POV) – DMAR-036**

Objective: To determine if there was some type of major event or a decline in health to justify a power wheelchair or Power-Operated Vehicle (POV) claim. A POV is a three-wheeled battery operated vehicle also known as a scooter.
Date of Service Range: 1/1/2010 – 6/30/2011
Conclusion: It was determined that this study was not able to be completed based on Medicaid claims alone but would require obtaining patient medical charts. Results were referred to AHCA MPI for informational purposes only.

- **Lidoderm Dispensing – DMAR-043**

Objective: To identify the top dispensers of Lidoderm 5% and subsequent top prescribers who may be prescribing this expensive drug unnecessarily.

Date of Service Range: 1/1/2008 – 12/31/2010

Conclusion: This data mining initiative identified nine top prescribers of Lidoderm who also prescribe Lidoderm "off-label", i.e., using the drug for different conditions other than for which it has been officially approved by the U.S. Food and Drug Administration. Currently this is allowable in the State of Florida; therefore, complaints were not opened on these providers. The analysis was referred to AHCA for further review along with a recommendation that the State of Florida Medicaid Program develop policies and protocols that address "off label" Lidoderm prescriptions.

- **Procedure Code 53085 Analysis – DMAR-047**

Objective: To identify those providers that bill and are reimbursed for procedure code 53085, Drainage Perineal Urinary Extravasation, for female recipients. This code is only utilized on the male recipient population, however, according to the US Department of Justice there have been several arrests due to healthcare fraud pertaining to this scenario.

Date of Service Range: 7/1/2008 – 6/30/2011

Conclusion: There were no findings of concern. Results were referred to AHCA MPI for informational purposes only.

- **Paravertebral Injection Codes Analysis – DMAR-049**

Objective: To identify those providers that bill excessively and are reimbursed for procedure codes involving paravertebral injections which require sterile environments, ample prep and post injection observation.

Date of Service Range: 1/1/2008 – 12/31/2011

Conclusion: Four outliers were referred to AHCA MPI as standard referrals.

- **HIV - Pharmacy and Prescriber Outlier Analysis – DMAR-064**

Objective: To identify any outlier pharmacies and prescribers with regard to HIV drugs.

Date of Service Range: 11/1/2010 – 4/30/2012

Conclusion: A standard referral of the number one outlier was sent to MPI AHCA for a pharmacy invoice audit.

In summary, the data mining activities (FFY 2010 – 9-30-2013) led to 59 MFCU complaints, of which 29 were converted to MFCU Cases. Of the 29 mentioned cases, 18 were closed and 11 cases have an ongoing active status. A total of 41 data mining referrals from DMARS were sent to MPI by the MFCU for administrative actions, as MPI deemed appropriate and necessary, together with six direct referrals. In addition, results of some data mining exercises were provided to AHCA MPI for informational purposes.

4. Data Mining Activities: Key Informant Experiences

The qualitative component of this mixed methods evaluation of the Data Mining Initiative (DMI) lends a much deeper understanding of the underlying processes and organizational policy and procedures that provide a more nuanced evaluation of DMI waiver program. The data for this evaluation emanates from a series of personal interviews conducted by the project principal investigator with specifically chosen key informants within the Medicaid Fraud Control Unit (MFCU) and the Florida Agency for Health Care Administration organizations. In addition, two inter-agency meetings were attended.

The purpose of the interviews was to derive a clear understanding of operational aspects concerning data mining, from pre-data mining activities within the MFCU to communications flow and cooperation between MFCU and AHCA personnel. The inter-agency communications pertain to the biweekly meetings, as well as to the monthly data mining meetings (DMAR).

It is noted that even before commencement of the Data Mining Initiative (DMI), senior management teams from AHCA and MFCU, as well as the Department of Health (DOH), met on a monthly basis to discuss major issues related to Medicaid fraud and abuse prevention, detection, strategies, joint projects and other relevant matters. The MOU resulting from the CMS waiver added another dimension to the inter-agency relationship, in the sense that deeper and higher intelligence gathering ties are created between the two organizations. The objective in describing these interactions is to provide a more nuanced evaluation beyond quantitative data analyses and evaluation previously addressed, and to provide further recommendations to improve upon the data mining process within the MFCU.

First described are various aspects of data mining, as well as its process, as explained and discussed in-person with data mining analysts. Second, an impression is given on a MPI/MFCU biweekly meeting and a DMAR-meeting attended. Next, some perspectives are provided from interviews with higher level MFCU management. Finally, a report is presented of interviews held with representatives of the AHCA Bureau of Medicaid Program Integrity.

MFCU: Data Mining

A questionnaire was developed with a list of semi-structured questions for interview purposes to get a clear perception of the data mining process. For the data mining analysts, the semi-structured interview questions were categorized in such a way as to shed light on the following aspects of data mining:

1) Research team,
2) Procedures and protocols,
3) Queries, algorithms and models,
4) Validation,
5) Documentation or filing of practices, and
6) Other more general questions.

1) RESEARCH TEAM

Before commencement of the Data Mining Initiative (DMI) in October 2010, all three data mining analysts were power users with the Florida Decision Support System (DSS). The term "power user" is used to indicate the highest level of data mining analysts (based on training), who are given priority in data access and analyses. Since the three data mining analysts became part of the MFCU, they have received considerable training. As indicated, law enforcement criminal analyst training by the Florida Department of Law Enforcement (FDLE) constituted the

major focus of training in FFY 2010-11. Subsequent training covered a variety of applied and practical issues (see Table 2).

Prior to October 2010, the research team at MFCU had access to the DSS databases (with claims and other information), but any data mining activity had to be either case specific or be based on an allegation or complaint. Subsequent data mining activities (also referred to as "phishing") could only be communicated with and referred to AHCA, with the outcomes of data mining obtained with some time lag. This time lag may have resulted in less efficient fraud case detection productivity by the data mining analysts at MFCU.

The present procedure under the CFR waiver, with checks by AHCA on possible duplication of effort, works quite efficiently, as learned during the interviews with key personnel. The direct communications on data mining proposals at the biweekly meetings is valuable to the case development process. In addition to the biweekly meetings, reference is made to the monthly meeting between MFCU and AHCA on data mining, in which another candid exchange on data mining issues takes place. Also, increased synergies were mentioned. Both meetings seem to be highly valued from the agencys' perspectives. In short, the in-person meeting protocol works fairly smoothly and fairly efficiently.

2) PROCEDURES AND PROTOCOLS

The initial "trigger" for data mining analyses can be an idea, a concept, or a person/provider, and can either be based on a complaint or pending case. Proposed or suggested data mining activities or projects by MFCU are relayed to AHCA at the biweekly meetings. AHCA distributes the suggested project to other relevant AHCA staff and vendors, and replies to MFCU usually within the timeframe of one week. This relay is instituted to check with the different agencies on whether there is an issue of duplication of intended data mining activities. As a result of these discussions, only eleven out of seventy-one potential data mining cases or projects have been denied to date.

On each potential project, two checks are performed; the first is on the promise of outcome, and, if promising, the data mining needs are put in queue with a tracking number and log. The second check is on whether a person/provider is already under investigation. Data mining activities may add information to an open case, or may potentially lead to the designation of an offender as a repeat offender. Once a data mining activity by MFCU is commenced, a project file is set up. Each project is entered into the Data Mining Initiative (DMI) Tracking Log, whether approved or denied by AHCA, both for tracking and filing purposes. This DMI Tracking Log is currently maintained in Microsoft Excel spreadsheet format and is separate from the MFCU Case Management database.

3) QUERIES, ALGORITHMS AND MODELS

Different data mining techniques are used on the DSS Databases utilizing tools such as Microsoft Excel, Microsoft Access, Excel Pivot tables, and Phi2 (mainly by AHCA). Programmed algorithms (beyond Microsoft Excel functions) are not used and are perceived to be the prerogative of the support contractor (Hewlett Packard). On the question of whether the data mining activities could best be described by: (A) "statistics, neighborhood and clustering," or (B) "trees, networks and rules,"[16] the key informants said it was both types.

Outlier analysis is generally perceived as a first-cut and broad data mining analysis task, and is used as a basic data summarization or aggregation tool. The DMI analytical capabilities are viewed as much more granular and thrive on more detailed data exploitation. This depth of data exploitation was considered necessary to look for patterns or rules, e.g., trending, spikes, and out of the ordinary claims. Even with issues of provider scale (large versus small providers) and/or scope (specialists versus general providers), data mining activities can be quite focused

[16] The two mentioned types of data mining approaches differ in whether they seek to build models (i.e. summarizing data by e.g. cluster analyses, regression) or to find patterns (i.e. identifying small departures from the norm, to detect unusual behavior).

on variables such as; provider type, type of service, specialty of medical provider, timeframe, and/or geographic location.

4) VALIDATION

Once a data query is run and data is retrieved, the results are documented in a Data Mining Analyst Report (DMAR) with a DMAR tracking number. The translation by the data mining analyst, from data mining output to a report being written with recommendations, is the first step in deriving actionable information from the data. This translation determines the further direction of the data mining analyses project in terms of potential complaint/case opening, termination, referral to AHCA MPI, or moving it to the next level as a potential law enforcement issue. If moving to the next level, this usually leads to further demand for data analysis by the data mining analyst. This data frequently requires multiple rounds of data mining actions and techniques. Given the large number of data mining analyst reports available in queue, validation is typically done by MFCU staff based on additional insights from legal and medical experts. Similarly, adjudication of a filed complaint often requires data mining enhanced by legal and/or medical expertise before proceeding to fraud or abuse case level. It takes time to prepare and process a legal dossier, even long after the data mining activities are complete. Any subsequent involvement of law enforcement could lead to a full-blown case. However, if a project or case under review is deemed as truly administrative in nature at any stage, the project or case will be closed by the MFCU and referred to AHCA.

5) DOCUMENTATION OR FILING OF PRACTICES

All analysts' activities are accounted for in a Data Mining Analyst Reports (with DMAR number, and/or subsequent Office of the Attorney General (OAG) file-number), filed in the system, and put in the Tracking Log. Analytical queries and models are saved and can be run against a case

file immediately or at selected regular intervals, depending on changes in data. All data mining activities are reported by name or case-specific (as per legal practice), for potential later use.

A DMAR report comprises the following sub-tabs:

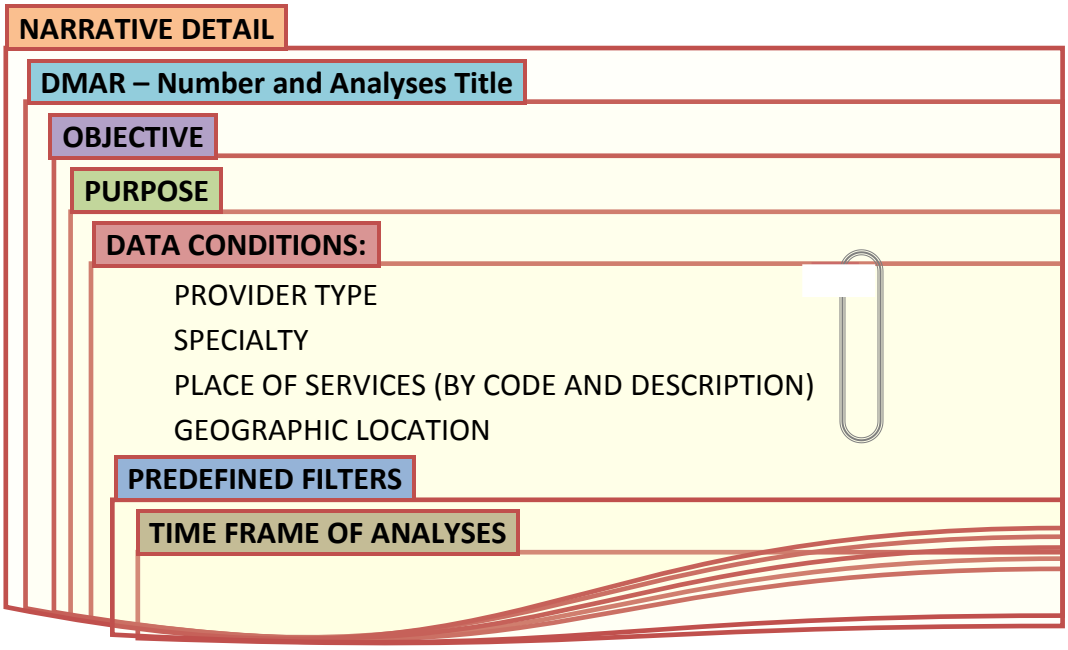


Figure 10: Various Tabs of an Investigative Data Mining Activities Report

Once a project becomes a complaint, the DMAR report is combined with further investigative and legal documentation, and filed in the computer-based Case Management system with an OAG tracking number. This system comes with various sub tabs as well; namely, summary, contacts, investigation, status, legal status, supplemental information, attachments, evidence, and statistics.

6) OTHER MORE GENERAL QUESTIONS

Links Analyses Software was mentioned as a software tool that may be helpful for the MFCU's data mining activities. Links Analyses is a VisuaLinks® - Link Analysis Software (a platform-

independent) graphical analysis tool used to discover patterns, trends, associations and hidden networks in any number and type of data sources.[17] In substantiating the need for this resource, reference was made to this software's added capability to address: 1) the higher volume of activities with an added number of projects resulting from the DMI, 2) more complete and robust package development for tracking cases (instead of the presently used Microsoft Excel), and 3) the need to generate forms and letters for AHCA and other agencies involved in the Medicaid fraud recovery process.

Overall, the perception from these interviews was that with the DMI, data needs were more readily met (as compared to the prior "data on request only" structure with the AHCA), that response time on "what if" data needs decreased dramatically, and supportive data mining in pending investigations readily added valuable information to cases. The roles, responsibilities and position of AHCA MPI is fully recognized, understood and highly respected by the MFCU.

MPI/MFCU Biweekly Meeting and DMAR Meeting

In experiencing the AHCA MPI/MFCU Biweekly meeting, referral case discussions were addressed expeditiously and given clear assignment of responsibility for further actionable case development. Important inter-agency issues were also addressed during these meetings, taking advantage of the various fields of expertise in attendance including: medical, Medicaid protocols, legal perspectives, and investigative field experience, resulting in a comprehensive assessment on each issue discussed. The direct, accommodative, and supportive communications led to quick and increased insights for everybody present. Any other form of communication, including e-mail, between the organizations to achieve similar results would

[17] Visual Analytics Incorporated (VAI) is a leading provider of information sharing and visual data mining products. VisuaLinks presents data graphically, uncovering underlying relations and patterns. VisuaLinks addresses the entire analytical process – from access and integration to presentation and reporting – providing a single and complete solution to a broad range of data analysis needs. For more information see: http://www.visualanalytics.com/products/visualinks/index.cfm

have been much less efficient and taken much more time. In principle, these meetings are an added learning experience for all participants, increasing expertise on handling cases and issues, and thus, increasing the efficiency of resources allocated by both organizations. The DMAR meeting was different in the sense that it was not focused on a single case, but more open to finding common denominators across many cases. These common denominators included different data mining methodologies, procedural or institutional constraints, et cetera, opening new avenues and opportunities for further data mining activities.

MFCU: Data Mining Initiative - Added Value

Key informant interviews were held with higher ranked management personnel as well. The objective was to obtain an understanding of potential contributions from data mining activities at the MFCU beyond the quantitative data analyzed already.

As already discussed, prior to the DMI, crime or fraudulent activity detected by the MFCU might not necessarily have translated in communications with AHCA MPI. With the present partnership and communication structure now in place because of the CFR waiver, strong two-way communications have been developed. Each team, MFCU and AHCA MPI, has a clearer understanding of what the other team is looking for in its data mining requirements and activities. Since the start of the waiver in 2010, eleven duplications out of seventy-one potential data mining project duplications were identified and avoided.

The data mining activities at the MFCU enhance its mission. While the data mining analysts have no part in the formal decision making process within the monthly data mining meetings, their expertise and insight is highly regarded in brainstorming potential cases or in resolving other cases when problems arise. Data analysts' experience is valuable and highly appreciated.

Adding data mining activities to fraud control prevention and detection activities has proven to be more difficult than initially perceived. Project work flow and quantification of operational

outcomes are still being developed. The initial expectations as expressed by analysts and management on finding more fraud cases and recovering more funds were high, but unfortunately, those expectations have not yet come to fruition. Data mining generates potentially huge quantities of data that require even more resources to incorporate findings more efficiently into the case identification, selection, and adjudication process. Organizational changes in the legal and managerial staffs have occurred during this time period. Management has made significant adjustments as expectations have been reevaluated.[18]

It is recognized that the organization, itself, is learning on how to fit data mining into the fraud and abuse detection process and make the best use of its' promise and capability. Law enforcement personnel and other new members of the MFCU organization are required to meet with data mining specialists to enhance their understanding of these experts.

A decision was taken in October 2013 to increase the amount of FTE available for data mining analysis.[19] This should make additional resources available to support the fraud recovery results. It is obvious from the qualitative discussions with program management that DMI analysts are now supporting even more promising cases with potentially higher pay offs. Data mining is seen as integral to the daily operations of the MFCU.

It is clear from key informant interviews that the MFCU understands the valuable role data mining plays in cutting-edge fraud prevention, detection, and adjudication.

AHCA

The Bureau of Medicaid Program Integrity (MPI) does extensive research on providers, medical practices, claims, billings, and payments using its expertise in health care administration,

[18] See footnote 9 and Table 1, on the amount of reserve positions. In addition, even the position of MFCU director became vacant on 03/14/12. On that date the position was filled by the interim director until 05/25/12 when the present MFCU director was appointed.

[19] It is noted that, as of 10/1/2013, MFCU is permitted to increase the data mining time resource allocation to 0.75 FTE.

legislation, and medical practice. On data mining, MPI uses the DSS and has direct access to these databases via desktop/server resources. In addition to Microsoft Excel and Intrusion Detection Software (IDS), Active Data Base software is used, which is deemed better than Access Pivot in this process.

Results of data mining activities by the "Detection Group" are forwarded to the "Case Management Group." The Case Management Group decides the further disposition of cases under active investigation. Upon their direction, a project can be dropped, additional records requests can be made, or projects or cases can be referred to the MFCU for law enforcement and legal action.

Incoming data mining project requests from the MFCU, prior to the October 2010 CFR waiver, were put in queue, awaiting availability of their limited data mining resources.

Under the waiver, incoming proposals are checked both internally and externally with other agencies for possible duplication of data mining activities. MFCU is notified, usually within one week, of whether or not there is duplication of effort. The timeliness of these communications have allowed MFCU to begin data mining activities more expeditiously, and given the state of Florida a more comprehensive process for preventing, detecting, and recovering ill-gotten Medicaid monetary resources. Data mining by the MFCU is not seen as competition with AHCA MPI, but as a partnership beneficial to the roles and responsibilities of each organization, the state of Florida, and its taxpayers.

Inter-agency communications and mutual working relationships have markedly benefited since the CFR waiver and inter-agency MOU were approved in 2010. It's obvious these two organizations now communicate effectively and efficiently on a different level than prior to the waiver.

5. Evaluation

Pursuant to the Centers for Medicare and Medicaid Service's waiver CFR 1007.19 granted on July 15, 2010, and the subsequent MOU signed between AHCA (the "Agency") and the Florida Attorney General, on September 13, 2010, this section presents an evaluation of the MEDS-AD waiver: data mining activities, contingent on the waiver CFR 1007.19. On the evaluation of the Data Mining Initiative (DMI) at the Medicaid Fraud Control Unit (MFCU) at the Florida Attorney's Office, the question is whether or not the data mining waiver, as a demonstration project, added significantly to the results of Medicaid fraud investigations in the state of Florida.

Given that the Data Mining Initiative (DMI) cannot be seen apart or isolated from the activities conducted within the Medicaid Fraud Control Unit (MFCU) of the Attorney General's Office, or from the inter-agency activities with the Agency for Health Care Administration (AHCA), the Structure-Conduct-Performance Paradigm (SCPP) framework is used. This framework puts the DMI in its proper perspective, namely as an added asset to the MFCU.

Various input, throughput, output and outcome variables available were described. Of the described variables, however, only a limited set proved useful for further analyses to properly represent the position of the data mining activities within the MFCU (limitations are notably due to the present status of development of the data mining activities, i.e. limited data, no values being recovered, rather constant or fixed FTEs, qualitative data, et cetera).

The numbers of fraud complaints received and attributable to the MFCU Data Mining Initiative are 27 for FFY 2010-11 and 16 each for both FFY 2011-12 and FFY 2012-13. The numbers on

opened new fraud cases attributable to the DMI are 12 for FFY 2010-11, 14 for FFY 2011-12 and 3 for FFY 2012-13. The incidence ratios of opened new fraud cases divided by the number of complaints are 0.444, 0.875 and 0.188 respectively (see Appendix 2; Figure 12 and Table 12). Opened new fraud cases attributed to the DMI are, on average, 3.4 percent of total opened new fraud cases divided by the three years of evaluation. Exclusive of the CCEB data, the DMI average would be 7.7 percent of the opened new fraud cases.

The average annual value in monies recovered by the MFCU is approximately $105.9 million for the period FFY 2010-11 through FFY 2012-13. The comparable value for the prior period, FFY 2006-07 through FFY 2009-10, is $108.6 million, constituting a rise of approximately 6.0 percent. With a drop in the number of cases investigated by 3.0 percent, this effectively means a rise of 9.3 percent of value recovered per case investigated during the waiver evaluation timeframe.

Of every Federal Financial Participation (FFP) dollar spent; approximately $10.27 was recovered in FFY 2010-11, $24.53 in FFY 2011-12 and $4.03 in FFY 2012-13. No recovery can be assigned to the DMI as of yet.

In summary, the data mining activities (FFY 2010- to date) led to 59 MFCU complaints, of which 29 were converted to MFCU cases. Additionally, 41 data mining referrals were sent to the MPI by the MFCU for administrative actions, as MPI deemed appropriate and necessary, together with six direct referrals. Several data mining exercises were also provided to AHCA MPI for informational purposes.

Over the FFY 2010-11 through FFY 2012-13, a total of 18 cases attributed to the DMI have been brought to a close with the following dispositions: nine had lack of evidence, four resulted in administrative referral, four were unfounded and one case was an assistance case to another agency. Other cases are still in progress, given the short timeframe of this evaluation period and the sometimes time consuming nature of these investigations.

Although expectations on the initiative were high, they are not achieved yet. Admittedly, the right metrics of operation or modus operandus hasn't been found yet. It is recognized that the organization itself is learning on how to fit in and make the best use of the data mining opportunities. MFCU has made quite some progress.

Static explanatory analyses of the efficiency of DMI show that the ratio of DMI assigned opened new fraud cases divided by fraud complaints on average was 0.421 and the ratio of cases disposed divided by opened new fraud cases was 0.875 (see Appendix 2; Figure 12 and Table 12)[20]. Comparable average ratios of the MFCU in total are 0.295 and 1.047 respectively (see Figure 11 and Table 11).[21] Comparing the two ratios gives credence to the observation that DMI seems to have significantly improved on MFCUs' activities. In short, the efficiency of the DMI stands out with respect to the MFCU in total.

A multivariate regression analysis is used to test the descriptive results from a more dynamic perspective (i.e. under ceteris paribus or slightly changed scenarios (see Appendix 2; Figure 14)). Analyses indicate that a change of plus one percent in funding/expenditures results in a 3.37 percent increase in newly opened fraud cases. Similarly, one percent less personnel FTEs results in a 3.93 percent increase in opened new fraud cases, while a one percent decline in FTE with DMI increases the number of opened new fraud cases by 6.19 percent (the negative relation is due to historic FTE development). It appears from these analyses, that the right employees, i.e. with DMI, are even more important than funding or expenditures. In short, a given number of cases can be accomplished with less FTEs once combined with DMI, i.e. DMI enhances employment efficiency or productivity.

No dynamic explanatory relation is found between any measure of input and cases investigated, cases closed, or monies recovered.

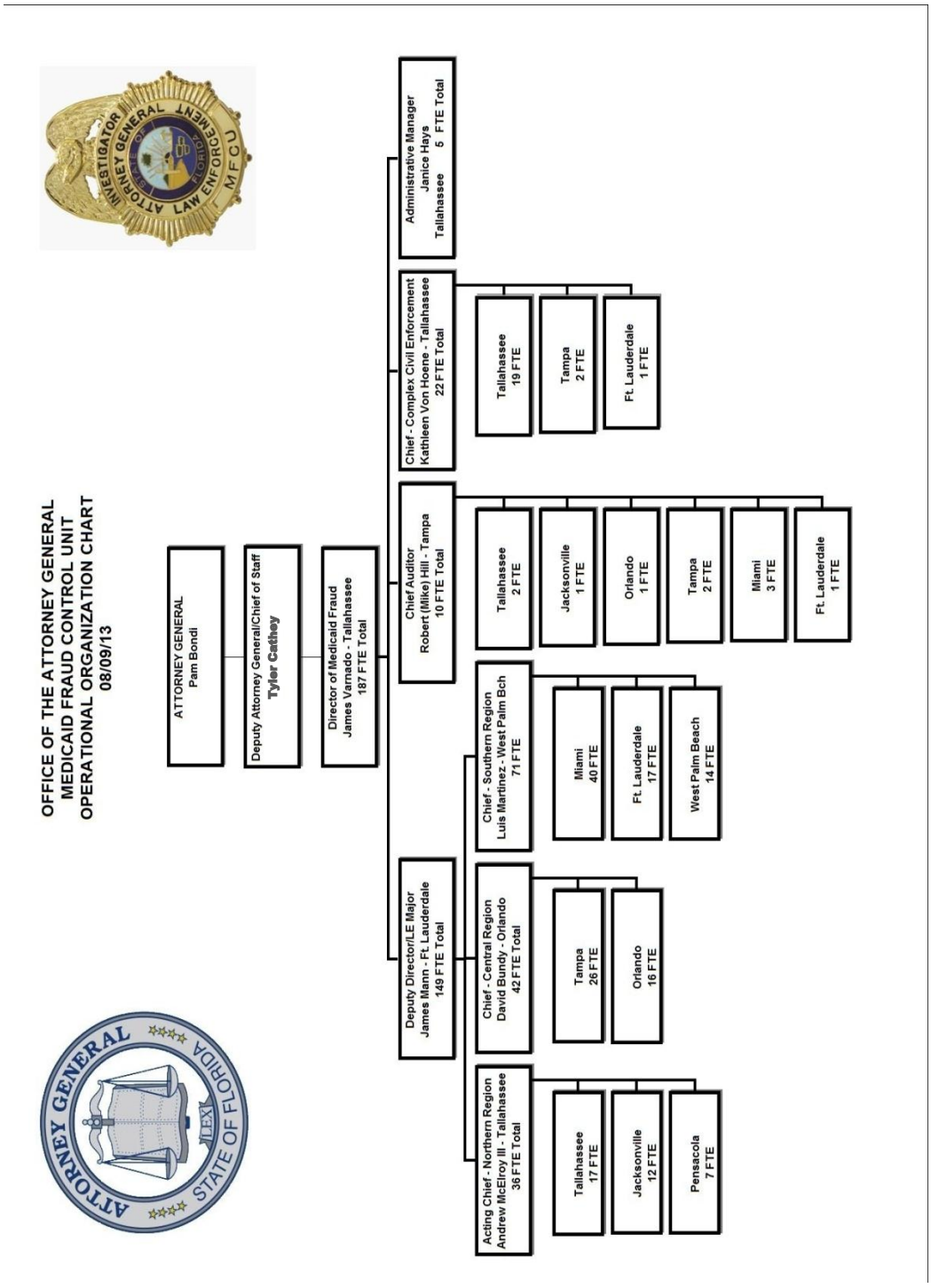
[20] See Appendix 2
[21] See Appendix 2

Additionally, the two organizations, the Florida Attorney General's MFCU and the Agency for Health Care Administration's MPI, have established formidable and direct communications leading, in time, to a potential high return on investment. A symbiotic relationship has formed and has led to added learning, leading to new understanding and increased effectiveness in data mining activities and case development, particularly at the high specialist level within the organization.

The Data Mining Initiative plays a unique role on the cutting edge of Medicaid fraud prevention, detection, criminal and civil adjudication, and monetary recovery. Unfortunately, history has taught us as more fraud cases are brought to a close, fraud and abuse perpetrators will become more ingenious. This preliminary evaluation suggests that the intentions of the CFR demonstration waiver are being met, closer coordination between the two agencies exist because of the Data Mining Initiative, and the State is better positioned to more expeditiously address emerging changes to these threats.

Appendix 1: Operational Organizational Chart

Office of the Attorney General Medicaid Fraud Control Unit



Appendix 2: Explanatory Analyses

In principle, an evaluation looks from plan to budget, and, in particular, to program execution. It brings out cost and quantity differences (efficiency), as well as with respect to market results, price and quantity differences (effectiveness). In this case, the absence of documented monetary recoveries resulting from the DMI limits the ability to calculate a true return-on-investment.

However, given this constraint, and in following the concept of input, throughput, output and outcome, Figure 11 on the following page shows a recap of some of the key output data points, or achievements, from Section 2 of this report that lead to meaningful conclusions. The figure shows, at one glance, the MFCU back-to-back ratios from complaints to cases ending in settlement, conviction, or plea agreement (counter clock-wise). The right-hand side of the horizontal axis show two scales, the upper scale is the number of complaints and the lower scale are the cases ending in settlement, conviction, or plea agreement. The other axis show the number of fraud complaints, opened new fraud cases, and cases disposed respectively.

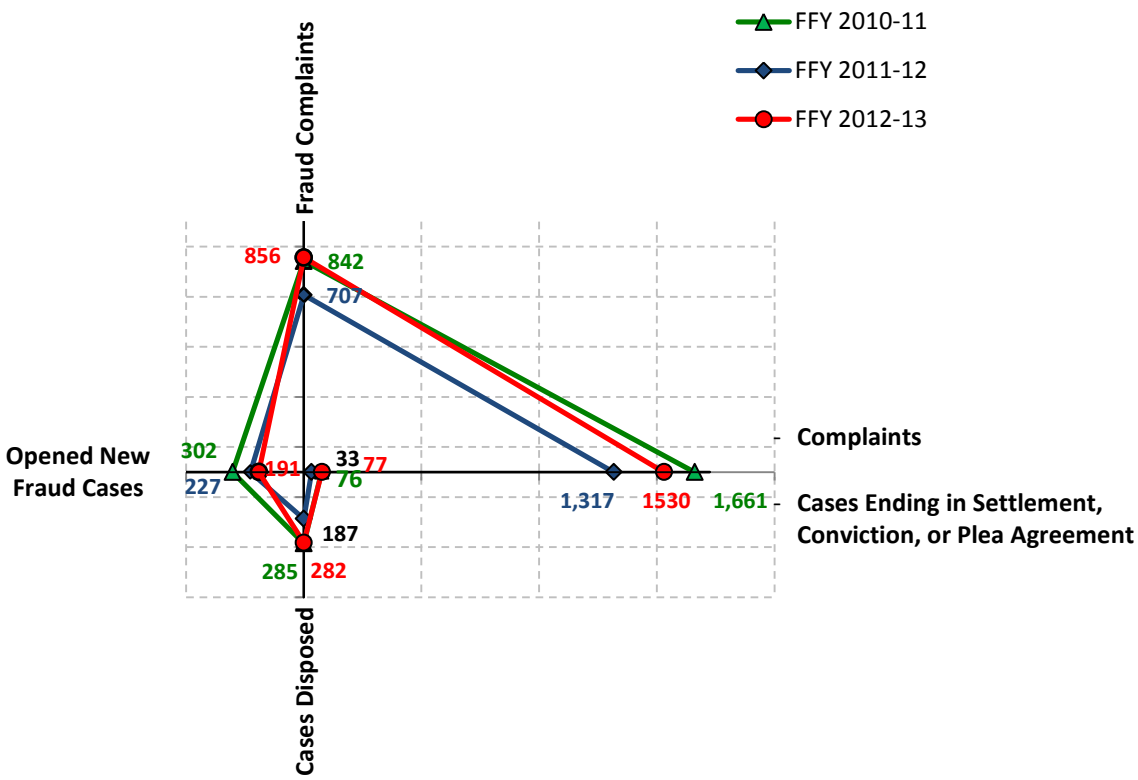


Figure 11: Number of Complaints, Opened New Fraud Cases, Disposition of Cases, and Cases Ending in Settlement, Conviction, or Plea Agreement, MFCU, FFY 2010-11 through FFY 2012-13

For instance in FFY 2010-11, reading the figure counter clockwise, a total of 1,661 complaints were received (first or upper scale on the right hand side of the horizontal axis), some 842 fraud complaints were dealt with (top vertical axis), 302 new fraud cases were opened out of 354 cases in total (left hand side of the horizontal axis), and some 285 fraud cases were disposed (bottom part of the vertical axis). Finally, some 76 cases were brought to a settlement, conviction, or plea agreement (bottom scale on the right hand side of the horizontal axis). Consequently, the ratios are: 842/1,661 = 0.507, 302/842 = 0.359, 285/302 = 0.944 and 76/285 = 0.267. Similarly, for FFY 2011-12, a total of 1,317 complaints were processed, some 707 complaints were handled, 227 new fraud cases out of 292 cases overall were opened, and some

187 cases were brought to a close. In addition, some 33 cases ended in a settlement, conviction, or plea agreement. The FFY 2011-12 ratios are: 707/1,317 = 0.537, 227/707 = 0.321, 187/227 = 0.824 and 33/187 = 0.176. FFY 2012-13 saw 1530 complaints, of which 856 were fraud complaints. Opened new fraud cases numbered 191, with 330 fraud cases disposed and of which 73 cases ended in settlement, conviction, or plea agreement. The respective ratios for FFY 2012-13 therefore are: 856/1530 = 0.559, 191/856 = 0.223, 330/191 = 1.476, and 73/330 = 0.273.

The ratios are recapped in percentages in Table 11. Shading is provided to express the relative preferable outcomes per column (darker is better). The last column of Table 11 shows the overall efficiency with respect to output, namely cases ending in settlement, conviction or plea agreement divided by the fraud complaints 76/1,661 = 0.046, 33/1,317 = 0.025 and 73/1,530 = 0.050 for the respective FFYs. Finally the bottom row shows the outcomes of averages linked 53.4 percent times 29.5 percent = 15.8 percent and so on.

Table 11: MFCU Case Statistics per Stage of Process, from Complaints to Cases ending in Settlement, Conviction, or Plea Agreement, FFY 2010-11 through FFY 2012-13

	Fraud Com-plaints / Complaints	Opened New Fraud Cases / Fraud Complaints	Cases Disposed / Opened New Fraud Cases	Cases ending in Settlement, Conviction, or Plea Agreement / Cases disposed	Cases ending in Settlement, Conviction, or Plea Agreement / *Fraud Complaints*
FFY 2010-11	**50.7%**	**35.9%**	**94.4%**	**26.7%**	**4.6%**
FFY 2011-12	**53.7%**	**32.1%**	**82.4%**	**17.6%**	**2.5%**
FFY 2012-13	**55.9%**	**22.3%**	**147.6%**	**27.3%**	**5.0%**
Average[22]	**53.4%** →	**29.5%** →	**104.7%** →	**23.4%**	**3.9%**
Averages Linked		↓ ***15.8%***	↓ ***16.5%***	↓ ***3.9%***	

In principle, all ratios should be below one since obviously complaints outnumber cases, and not all cases come with an arrest, or a positive outcome in terms of monies recovered.

[22] Geometric averages are used.

However, the data in Figure 11 and Table 11 contain parallel FFY data only, and not successive or causal results from complaint to disposition, or tracking of complaints over the years, from complaint to disposition. Put differently, Figure 11 and Table 11 map the year-to-year activities of the MFCU on all fronts; activities to which time and other resources are allocated, to review, refer, work with the investigative team, et cetera.

A similar set-up for the MFCU Data Mining Initiative attributed cases (DMI) is given in Figure 12, with the recap of ratios (in percentages) in Table 12.

Figure 12: Number of Complaints, Opened New Fraud Cases, Disposition of Cases, and Cases Ending in Settlement, Conviction, or Plea Agreement, Attributed to DMI, FFY 2010-11 and FFY 2012-13

From Figure 12 it can be taken that the incidence or ratio of opened new fraud cases divided by fraud complaints changed upwards from FFY 2010-11 to FFY 2011-12 (12/27 = 0.444 and 14/16 = 0.875 respectively) to drop again in FFY 2012-13 (3/16 = 0.188). Both ratios of FFY 2010-11

and FFY 2011-12 are higher than the same incidence ratios of the MFCU total (Figure 11). The annual ratios of cases disposed divided by opened new fraud cases also see higher results; i.e., fewer cases disposed in FFY 2010-11 and FFY 2011-12 (ratios are: 5/12 = 0.417 and 7/14 = 0.5), while FFY 2012-13 saw quite an uptick in the same ratio (11/3 = 3.67). An average is depicted with the dashed line in Figure 12, with the three FFY average of 19 fraud complaints, 8 opened new cases and 7 cases disposed (8/19 = 0.421 and 7/8 = 0.875). Table 12 provides a recap of the DMI assigned ratios.

Table 12: DMI Assigned Case Statistics per Stage of Process, from Complaints to Cases ending in Settlement, Conviction, or Plea Agreement, FFY 2010-11 through FFY 2012-13

	Fraud Com-plaints / Complaints	Opened New Fraud Cases / Fraud Complaints	Cases Disposed / Opened New Fraud Cases	Cases ending in Settlement, Conviction, or Plea Agreement / Cases disposed
FFY 2010-11		**44.4%**	**41.7%**	
FFY 2011-12		**87.5%**	**50.0%**	
FFY 2012-13		**18.8%**	**366.7%**	
Average[23]		**42.1%**	**87.5%**	

On average[24] the ratio of opened new fraud cases divided by fraud complaints was 42.1 percent (8/19 x 100%) and the ratio of cases disposed divided by opened new fraud cases was 87,5 percent (7/8 x 100%). Comparable average ratios or percentages of the MFCU in total (as per Figure 11 and Table 11) are 29.5 and 104.7 percent respectively. Both averages of the DMI are significant improvements over the total MFCU ratios in Table 11.[25] In short, the efficiency of the DMI stands out with respect to the MFCU in total.

[23] Geometric averages are used.
[24] Geometric averages are used.
[25] Taken are the mean and standard deviation on the ratios of MFCU total from table 11. The comparable two ratios on the DMI from table 12 have a probability of occurring by chance less than five times out of 100 (designated by convention as $p > .05$) and thus differ significantly, this provided of course the three data points from Table 11 only.

In using multivariate regression analyses with the DMI as an added variable, it is possible to derive some explanatory insights, provided the short timeframe of the waiver period, from a more dynamic perspective. This brings a hypothetical element in the evaluation, which is to value and compare outputs under different scenarios; namely, with and without the DMI under the CFR waiver. For evaluation purposes, the perception is that the waiver provides an opportunity (e.g., data mining as an asset or working tool) to the Attorney General's Office to increase the efficiency of employment inputs. MFCU and DMI efforts (FFY 2006-07 through FFY 2011-13 YTD) are captured, by making, per definition, the sum of the Federal Financial Participation (FFP) and the Florida General Revenue/Program Income (defined as PGR) expenditures dependent[26] on the number of Opened New Fraud Cases (ONFC) and FTEs with an adjustment for DMI (increased employment efficiency with the DMI as an asset), according to the following format:

$$\mathrm{PGR} = \mathrm{a} * \mathrm{ONFC}^{\alpha} * (\mathrm{FTE}^{\beta} * \mathrm{DMI}^{\gamma})$$

in which:

PGR = Federal Financial Participation (FFP) and Florida General Revenue/Program Income means, expenditures only (in real prices of 2013),[27]

ONFC = number of Opened New Fraud Cases

FTE = effective employment in FTEs,[28]

DMI = Data Mining Initiative adjustment margin on FTEs.[29]

[26] To allow for further analyses, the same equation can be perceived as an identity, making the components interchangeable to, e.g., ONFC = [PGR / a*($FTE^{\beta} * DMI^{\gamma}$)] $^{1/\alpha}$.

[27] Annual budget data adjusted with Price Indexes for Gross Domestic Product according to Table 1.1.4. Price Indexes for Gross Domestic Product, Quarterly Data (third quarters only), Bureau of Economic Analyses, http://www.bea.gov, date retrieved January 5, 2014.

[28] FTEs are adjusted for time allocated to training. For the MFCU, excluding Data Analysts, 22 hours or 0.0123 FTE are assumed from each FTE for FFY 2006-07 through FFY 2008-09 and 20 hours or 0.0111 FTE for each FTE for the fiscal years FFY 2009-10 onward. For the data analysts 0.1214 FTE, 0.0351 FTE and 0.0449 FTE per analyst per fiscal years FFY 2010-11 though FFY 2012-13 is take for training purposes.

[29] For years without DMI, a dummy variable of 1 is used (i.e., no impact). For years with DMI an adjustment margin is used. The margin for FFY 2010-11 is taken at 0.9603 (or 1/(1+12/(302-12))), for FFY 2011-12 at 0.9383 (or 1/(1+14/(227-14))), and for FFY 2012-13 at 0.9843 (or 1/(1+3/(191-3))) as per DMI assigned opened new cases (FFY 2012-2013).

Given the equation, the expenditures (PGR) are seen in direct relation to the number of ONFC and FTEs adjusted by a DMI factor. The equation allows the DMI to be analyzed in conjunction with the FTEs, with DMI as an added asset to increase the efficiency of employment. Therefore, the equation brings to the fore the essence of the evaluation, while it allows for sensitivity analyses, i.e., changing one variable while leaving the others constant (ceteris paribus).

The multiple regression analyses on the data points FFY 2006-07 through FFY 2012-13 yields:[30]

$$\mathrm{PGR} = 5{,}322.31 * \mathrm{ONFC}^{0.3016} * (\mathrm{FTE}^{1.2106} * \mathrm{DMI}^{1.9270})$$

Figure 13 displays the actual versus the expected number of ONFC, based on the multiple regression equation calculated, for the fiscal years FFY 2006-07 through FFY 2012-2013.

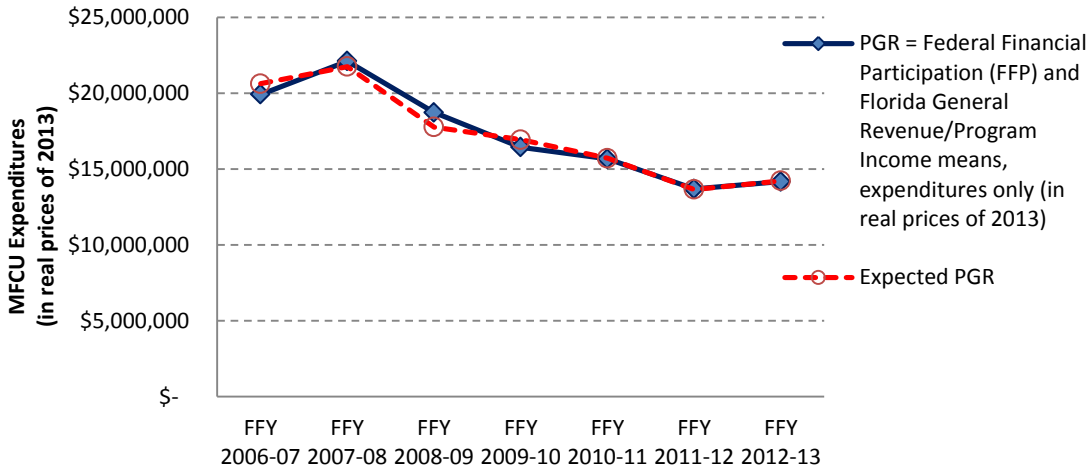


Figure 13: Actual versus Expected MFCU Expenditures in Real 2013 Prices, FFY 2006-07 through FFY 2012-13

[30] $\mathrm{PGR} = 5{,}322.31 * \mathrm{ONFC}^{0.3016} * (\mathrm{FTE}^{1.2106} * \mathrm{DMI}^{1.9270})$

t-Stat	7.3022	3.0529	5.9499	2.3784
P-value	0.0053	0.0553	0.0095	0.0978

With Multiple R = 0.9865, R^2 = 0.9731 and Adj. R^2 = 0.9463.

Given the equation, it is possible to conduct a sensitivity analyses, varying one variable while keeping other variables constant, measuring the impact on ONFC. Figure 14 provides the results of a sensitivity analyses done with available data.

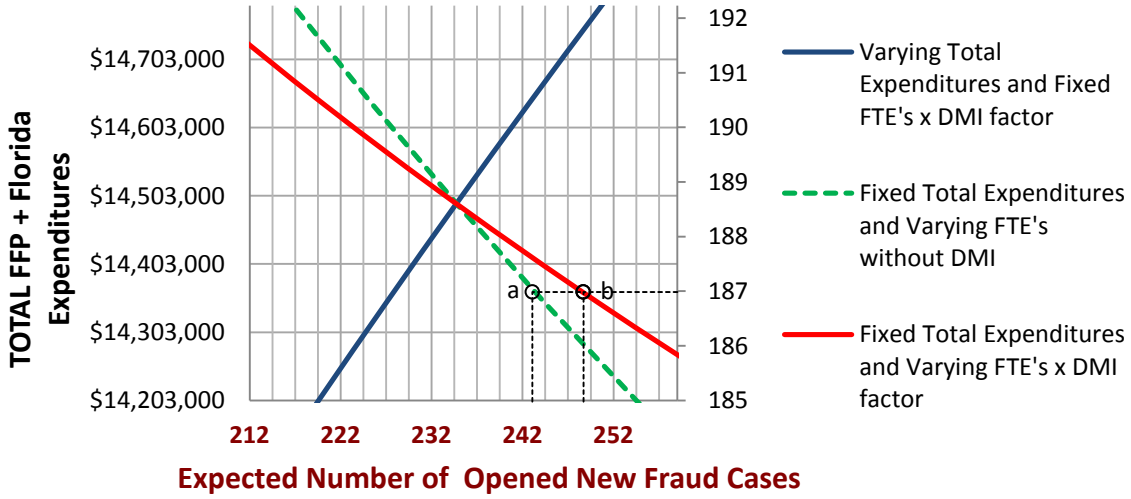


Figure 14: Sensitivity Analyses of Average Budget and Full Time Equivalent Employment with and without Active DMI on the Number of Expected Opened New Fraud Cases, Average over FFY 2010-11 through FFY 20102-13

The intersection in Figure 14 represents the average[31] FFY situation, FFY 2010-11 through FFY 2012-13, with a total in expenditure of $14,492,624 (left hand scale), 188.16 applied FTEs (corrections from 188.4 FTEs due to training (right hand scale)), leading to an expected ONFC of 235.7 opened new fraud cases. From here, first the variable "Total Expenditures" (PGR) is changed within a small range while leaving other variables constant (ceteris paribus). The results are presented by the series "Varying Total Expenditures and Fixed FTEs x DMI factor". As can be observed from Figure 14, the positive or upward slope of the total expenditure line means that an increase in expenditures (left hand vertical axes) will go with an increase in ONFC (horizontal axes). More precisely, a one percent increase in PGR will raise the number of ONFC

[31] Geometric averages are used over the FFY 2010-11 through FFY 2012-13.

by approximately 3.37 percent. Secondly, the FTEs are varied (ceteris paribus), this with results represented by the line "Fixed Total Expenditures and Varying FTEs without DMI". Graphically, the negative or downward slope is a reflection of the decline in FTEs over the timeframe of analyses (FFY 2006-07 though FFY 2012-13), i.e. fewer FTEs with an increase in number of ONFC, indicating increased efficiency. In particular a one percent decrease in FTEs will change the number of ONFC by approximately 3.93 percent. The importance of this observation lies mainly in its comparison with the third line, namely, "Fixed Total Expenditures and Varying FTEs x DMI factor". This line is the result of changes in the third variable, the DMI. Since the DMI factor is taken in combination with the FTEs, it likewise has a negative slope meaning that an decrease in DMI comes with a higher number of ONFC (horizontal axes). In particular, a one percent de crease in the DMI factor will change the number of ONFC by approximately 6.19 percent. In reading Figure 14, approximately 243 ONFC comes with or needs 187 FTEs without DMI (point a), while the same FTEs with DMI results in an expected number of 249 fraud cases (point b). In short, a given number of cases can be accomplished with less FTEs once combined with DMI, i.e. DMI enhances employment efficiency or productivity.

No dynamic explanatory relation is found between any measure of input and cases investigated. Data on cases investigated are a snapshot in time only, as per the close of the fiscal year.

No dynamic explanatory relation is found between any measure of input and cases closed.

No dynamic explanatory relation is found between any measure of input and monies recovered. The explanation is that no measure for recoupment is attributable to the DMI as of yet, since the program is still in its infancy.