



**Health and Human Services Commission (HHSC)**

# **Enterprise Data Governance (EDG) Initiative**

**Quarterly Report**

**To the Legislative Budget Board (LBB) and the Governor's  
Office**

**As Required by Rider 151**

**Article II, HHSC, 2018-19 General Appropriations Act**

**First Quarter 2017**

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## Section 1. Overview

This report is being submitted by the Health and Human Services Commission to the Legislative Budget Board and the Office of the Governor, State of Texas, as stipulated in Rider 151 of the 2018-19 General Appropriations Act (Article II, HHSC, 85th Legislature) regarding the development of an enterprise data governance program for health information:

*“Enterprise Data Governance (EDG). Included in the amounts appropriated above in Strategy L.1.2, Information Technology (IT) Oversight & Program Support, is \$6,740,700 in All Funds (\$920,175 in General Revenue) in fiscal year 2018 and \$6,420,700 in All Funds (\$888,175 in General Revenue) in fiscal year 2019 for development and implementation of the Enterprise Data Governance project.*

*HHSC shall submit quarterly reports to the Legislative Budget Board and the Governor reflecting actual expenditures, cost savings, and accomplishments implementing the Enterprise Data Governance project. The report shall include a detailed plan for the project, a proposed schedule of expenditures, and the status of implementation for a comprehensive Medicaid focused Enterprise Master Data Management System, Metadata Repository, and Information Management Program. Additionally, the report shall include detailed strategies developed and implemented by HHSC to restrict the Enterprise Data Governance project to those items presented and approved by the Eighty-fifth Legislature, 2017.”*

## Section 2. Plan and Strategy

### 2.1. Detailed Plan

The Enterprise Data Governance project is operating on an approved Implementation Advance Planning (IAPD) document through 2022, with annual gateway approvals from the Centers for Medicaid and Medicare Services (CMS). Five project tracks have been identified to implement the overall Medicaid-focused EDG solution. Each track is composed of a set of phases. All five tracks will persist beyond the biennium.

Below are the project plan and approach details for each of the five EDG project tracks:

### **Data and Information Management Track (DIM)**

The purpose of the DIM track is to implement an enterprise Master Data Management (MDM) system for use across the HHS System.

Key functions of the MDM system are as follows:

- **Data Acquisition:** This capability acquires data from various sources containing similar data sets.
- **Data Standardization:** This capability ensures that master data conforms to data standards adopted by the EDG Council.
- **Data Mastering and Data Governance:** Data mastering includes data matching, merging, and retaining relevant information from various systems to form a single version of a matched record. Identity resolution across source systems requires data governance, the activity of an organizational structure that guides the alignment and implementation of enterprise data management policies and processes.
- **Data Publishing:** Master records need to be integrated with Health and Human Services (HHS) systems and data-driven business processes. The data publishing capability allows integration of golden records as needed by existing processes in HHS.

#### **Overall Solution:**

Implement a Medicaid focused Master Data Management (MDM) system. MDM is the organization, management, and distribution of corporately adjudicated, high-quality information with widespread use in the organization. The DIM track encompasses the implementation of a Medicaid focused HHS system-wide system that manages data and information for HHS use. Primary among these systems is the system that creates and manages mastered domain data, the HHS Insights Platform.

Use the MDM layer as a hub to measure, manage, and increase data quality in critical HHS data assets.

## **Data Quality and Standards Track (DQS)**

To improve data quality, it is imperative that data quality be measured quantitatively. The DQS track ensures that the HHS System can measure the data quality within key HHS systems and make necessary recommendations to improve data quality through the creation of data standards. Continuous monitoring of data quality within mastered data domains is a key requirement and an integral part of the EDG program.

### **Overall Solution:**

EDG's Data Quality process includes the following key components:

- Data Profiling
- Data Remediation
- Data Monitoring

Collectively, the key components of the Data Quality process are cyclical in nature and will be required to be repeated while profiling and remediating data quality issues for any given source system.

DQS will include profiling data sets from HHS systems to identify data anomalies and issues that adversely impact the business processes that the system is supporting. To ensure data quality is measured for all Medicaid systems, the DQS Track is divided into four phases. Each phase will deliver key capabilities for systems prioritized based on requirements from projects on the Medicaid Information Technology and Architecture (MITA) roadmap.

## **Metadata and Reference Data Management Track (MRDM)**

Metadata refers to that data within the HHS System that provides information about data and information elements. Reference data typically provides context to codes that are used when systems are developed. Examples of reference data include county codes and their references, region codes, and International Classification of Diseases (ICD)-10 codes.

Metadata and Reference data for systems within HHS are generally inconsistent and do not conform to any HHS System data management standard. Issues arising from lack of metadata and reference data standards become evident during data integration or data consolidation, resulting in poor data quality in reports and systems that lack HHS System alignment.

The MRDM track alleviates challenges arising from different standards, definitions, and reference codes by collecting information from disparate source systems, storing that information in a centralized repository (a Metadata repository for Metadata and Reference data management repository for adopted HHS System reference standards), and governing the creation, use, and maintenance of such data using EDG policies and processes.

Metadata management activity falls into three broad categories:

- **Collect:** This activity allows collection of metadata/reference data from transactional systems. Collection also includes the capture of changes to already collected metadata/reference data. During the Implementation Project, HHS intends to collect all business and technical metadata and relevant reference data.
- **Govern:** Governance is the activity by which the collected metadata/reference data will be analyzed for discrepancies and standards will be recommended. Priority of activity is given to those metadata/reference data domains that are required by Medicaid systems and CMS-approved Medicaid projects on the MITA roadmap.
- **Store / Publish:** This activity will allow storage and publication of metadata/reference data sets. Storage serves the important function of acting as the “hub” for metadata/reference data domains. Scope includes implementing necessary solutions to ensure reference data can be governed and published for multiple HHS System uses via a single, controlled interface.

#### **Overall Solution:**

Implement a Data Asset Repository (DAR) to collect comprehensive data asset information across HHS (as mandated by Sunset Issue 7). A data asset is any kind of information that contains valuable records. It can be a database, a document, or any type of information that is managed as a single set. Large HHS systems generally comprise multiple kinds of data assets, which are usually migrated as a logical set, as when systems are modernized and/or replaced. Ensure that the DAR is easily accessed and updated by HHS data Subject Matter Experts (SMEs). Ensure data asset technical and business metadata are widely available, searchable, and viewable in a browser. Where possible, technical and business metadata should be linked to quality metadata, which is created within other tracks.

In addition, implement a technical Metadata Repository (MR) to create visibility of HHS system data models and provide searchability within system entities and attributes.

## **Data Architecture Track**

Data Architecture is a key EDG competency that is beneficial in identifying and maintaining data and information assets within the HHS System. The primary goal of Data Architecture is to ensure key Medicaid-focused data domains are identified, defined, and managed appropriately within the HHS System. Additionally, this track is responsible for creating and maintaining a conceptual and a logical data architecture that aligns with the Texas HHS business architecture as referenced through the MITA framework. As a result, activity within this track aligns closely with MITA to identify business processes that will be impacted by improvements in data architecture.

### **Overall Solution:**

Develop and implement data governance processes to increase HHS competence and maturity in Enterprise Information Management (EIM). Integrate governed HHS reference data and data quality metrics into MDM tools as they are deployed in HHS. Implement reference data standards for HHS that can be used by data stewards who must be able to explain the utility of data beyond their program. Reference data that has been mapped to the HHS System standard can be employed by data analysts and business interface designers to standardize analytic output. Operational system architects and portfolio managers can use the same reference standards to provide long-term HHS System alignment and interoperability goals to their operational systems as they are maintained/replaced.

## **Data and Information Controls Track (DIC)**

The DIC track of the EDG program serves two basic purposes. First, it helps in managing the EDG program through the identification, definition, creation, and implementation of various controls and metrics required to clearly understand the increased efficiencies associated with the program. Further, it helps in identifying and monitoring various data controls like data security and data access for key data domains identified as part of the EDG program.

### **Overall Solution:**

Leverage the decision structure of the EDG Council to prioritize the creation of widely accepted data quality metrics. Utilize existing workgroups to adopt access and publication standards that control access to implemented repositories. Inform EDG Council of version roadmap options for implemented applications.

## 2.2. Detailed Strategy

This section details the strategies developed and implemented by the HHS System under the five identified project tracks:

### **Data and Information Management Track (DIM)**

#### **Previously Delivered (FY16-17)**

- Designed and implemented Release 1 and Release 2 of the HHS Insights Platform, creating tools and processes that provide the capability to identify, resolve, and harmonize critical provider and member identities across multiple HHS systems.
- Created policies, processes, and standards to establish Master Data records and manage mastered identity data within member and provider data domains.

#### **Expected Outcomes (FY 2018-19)**

- Create measurement tools, define processes, and ensure that people (data stewards) are coordinated for management of provider and member master data.
- Improve in data quality of provider and member identity and critical attribution, with price of non-conformance valued directly within business processes that depend on the attribution.
- Increase visibility of providers and members as they enter, exit, and move between agency programs.

### **Data Quality and Standards Track (DQS)**

#### **Previously Delivered (FY 2016-17)**

- Data profiling of eight HHS data sources within data acquisition processes for the HHS Insights Platform (MDM), which allows automated measurement of critical data quality by source.
- Defined identity exception processes and training content for use by subject matter experts (and future data stewards) in order to allow manual decisions to be made regarding unresolved identity duplication.



### **Expected Outcomes (FY 2018-19)**

Increasing HHS data quality requires tools, processes, and human resources, all orchestrated to work together. The MDM tools implemented in previous phases are operational. During FFY 2018, these will be leveraged by new data quality processes (exception management and data quality measurement). Data stewards will be embedded into existing business processes to perform data quality and metadata management tasks, using capabilities now available on the HHS Insights Platform. Under guidance of the EDG Council, a set of data quality metrics and goals will be published to provide guidance to HHS System data stewards:

- Select and adopt critical data quality metrics for provider attribution, member attribution, and operational source data quality (EDG program staff to propose list for adoption by EDG Council).

For example, these could include (but are not limited to):

- Percentage of data assets by departmental area with no identified business owner
  - Trended measures of identity data quality (e.g. percentage of members by program with unresolvable physical addresses)
  - Trending of managed care encounters (by Managed Care Organization (MCO), by service type) with known defects
- 
- In conjunction with identified data stewards (embedded within Center for Analytics and Decision Support (CADS), Medicaid/Children's Health Insurance Program (CHIP), and Access and Eligibility Services) design HHS System dashboards within the HHS Insights platform that are capable of tracking and trending critical HHS data quality metrics, with defined relationships to identified business goals.

## **Metadata and Reference Data Management Track (MRDM)**

### **Previously Delivered (FY 2016-17)**

- Initial implementation of Data Asset Repository was exposed for data entry and browsing via Microsoft SharePoint.
- Initial implementation of HHS Metadata Repository to store and browse technical metadata and HHS system data model (within Informatica Metadata Manager).
- Technical system metadata and updated data models for 27 major HHS systems readily available via a single, trusted location in the HHS Metadata Repository.
- Change management processes and policies defined with the EDG Council's support to establish an effective change management framework to collect source system metadata changes to support the continuous updating of the HHS Metadata Manager and Data Asset Repositories by data asset owners and subject matter experts.

### **Expected Outcomes (FY 2018-19)**

- During FY 18, the EDG Council will be refactored to reflect the major organizational changes within HHS that have taken place between August 2016 and September 2017. In particular, the EDG Council will have representation on all HHS IT Governance councils and will be creating project-oriented, cross-functional workgroups in order to address known issues of data management and data quality across Texas HHS.
- High completion rate of fully described HHS data assets by agency and department as measured and tracked by DAR scorecarding within SharePoint. Sunset Report Issue 7 specifically mandates this data asset management.
- Acquire technical system metadata and updated data models for all major HHS systems, provisioning them within a readily available, trusted, and secure location.
- Implement change control processes that will allow governance for reference data collected from disparate source systems within HHS to update and/or replace system metadata at appropriate times in system development lifecycles. This will require establishing interaction between the EDG Council and the HHS IT Governance structure.
- Refresh and enhance technical metadata from all HHSC Medicaid source systems.

## Data Architecture Track

### Previously Delivered (FY 2016-17)

In previous phases during FY 2016-17, two critical data domains were identified, largely based on their impact on MITA: member and provider. For each of these domains, various EDG activities have already been completed. These include:

- Providing an easily understood definition for both member and provider data domains.
- Identifying attributes that will help uniquely identify Medicaid member and provider records across disparate systems within HHS.
- Collecting metadata and related reference data (for 27 HHS systems) for member and provider domains.

### Expected Outcomes (FY 2018-19)

- There will be a re-chartering of a cross-functional Enterprise Data Governance Council (EDGC) and creation of data governance workgroups. State agency partners outside the HHS System that share major data exchange processes with the HHS System (e.g. Department of Family and Protective Services (DFPS) for foster care processes in Medicaid) may be invited as *ex officio* participants in EDG Council at the discretion of the EDG Steering Committee.
- Creation of policies and procedures for governed reference data and governed master data.
- Controlled publication of all governed reference values within HHS Insights (the MDM Hub discussed within DIM on page 5).
- Establishment of data stewardship as a practice within HHS business processes.
- Identification of low utility, duplicate, or irrelevant data interfaces and exchanges.
- Identification of high-value, trusted interfaces and exchanges to promote their intentional re-use.
- Creation and ongoing maintenance of a conceptual and a logical data architecture that aligns with the Texas HHS business architecture as referenced through the MITA framework. As a result, Data Architecture within EDG will work very closely with the MITA team to identify business processes that will be impacted by Data Architecture.
- Development of EDG program in partnership with the new IT governance model to determine critical areas of the HHS information architecture, both as-is and strategic to-be, which will be related to previous MITA Information Architecture deliverables, including the 2015 State Self-Assessment.
- Using previously established definitions of member and provider as well as previously collected system metadata to create enterprise conceptual and logical enterprise models for identity and reference data in these domains.
- Via EDG Council working groups, additional standards for technical architecture documentation will be used to further establish data management alignment across IT governance processes. These include data modeling and data dictionary standards, change management notification, and data stewardship reporting processes.

- The EDG Council will adopt recommendations for uses of published member and provider “best version of the truth” records to an Oracle repository. Once implemented, this repository will allow data analysts and system operations Subject Matter Experts (SME) mass access to mastered records. This data structure and/or services architecture is envisioned as the foundation for subsequent HHS projects that will enable HHS System analytics. This repository also serves as a key component for data exchange processes that can be used to improve data quality of member and provider identity and attribution within existing HHS operational systems.

## **Data and Information Controls Track (DIC)**

### **Previously Delivered (FY 2016-17)**

Not applicable. This track begins in FFY 2018.

### **Expected Outcomes (FY 2018-19)**

- The EDG Council will engage in a partnership planning model with IT Governance, the Office of the Chief Technology Officer (and others within the Office of the CIO) in order to define critical metrics of success for EDG.

Additionally, the EDG Council will adopt policies and procedures that govern:

- Provisioning of access to the HHS Master Data Repository and associated metadata repositories. These were previously developed and implemented in other tracks and will be expanded throughout FY 2018-19.
- Adopted Reference Code Standards for analytic use will be published.
- Authorization of standard reference values (previously adopted) for use in standardization of HHS System analytics. (This creates standards that will specify several fundamental requirements for future HHS System analytic strategy.)
- Informatica tools updated to use Reference Data Management (RDM) data governance workflow capabilities (available within Informatica 10.2.)

## Section 3. Accomplishments

Accomplishments for the EDG project reported below are within the defined categories of activities associated with that project.

Note: Accomplishments reported previously are *italicized*.

### 3.1. Medicaid focused Enterprise Master Data Management System

- Completed Enterprise Master Data Management (EMDM) Release 2 project close out activities
- Completed knowledge transfer from incumbent Deliverable Based Information Technology Services (DBITS) contractor to in-sourced project team
- Planned hiring rollout for FY 18-19 EDG positions required for future execution of project tracks

### 3.2. Metadata Repository

- Continued meeting with SMEs from various program areas to update business metadata in the Data Asset Repository (DAR)
- Developed gap analysis for DAR completion, and shared gap measures with HHS Data Sharing workgroup
- Continued meeting with technical SMEs to update technical metadata in the HHS Metadata Repository
- Continued collaborating with HHS source systems to adopt change management automation activities
- Developed procedures for onboarding HHS users to Metadata Manager and Business Glossary

### 3.3. Information Management Program

- As a result of human resources transformation at HHS, the charters for the EDG Council and the EDG Steering Committee have been refactored to reflect the changes in HHS organizational structure
- Developed new draft charters for EDG oversight groups
- Adoption of EDG charters by the HHS Chief Policy Officer (to be hired in November 2017)

## Section 4. Expenditures

### 4.1. Schedule of Expenditures and Actual Expenditures

The Schedule of Expenditures (Forecast), Actual Expenditures (Expended), and remaining Balance for the FY 2018 - FY 2019 biennium, is provided in the table below.

Rider 151 Reporting Categories	SFY 2018					SFY 2019				
	Forecast	Expended			Balance	Forecast	Expended			Balance
		GR	FED	AF			GR	FED	AF	
<b>Enterprise Data Governance</b>										
EDG Contracted Services	\$5,100,000	\$3,250	\$29,250	\$32,500	\$5,067,500	\$4,780,000	\$0	\$0	\$0	\$4,780,000
Software	\$32,586	\$0	\$0	\$0	\$32,586	\$34,110	\$0	\$0	\$0	\$34,110
Software Licensing/Maintenance	\$849,142	\$595	\$1,784	\$2,379	\$846,763	\$848,257	\$0	\$0	\$0	\$848,257
Hardware	\$77,400	\$0	\$0	\$0	\$77,400	\$77,400	\$0	\$0	\$0	\$77,400
Data Center Services	\$681,572	\$0	\$0	\$0	\$681,572	\$680,933	\$0	\$0	\$0	\$680,933
<b>Total</b>	<b>\$6,740,700</b>	<b>\$3,845</b>	<b>\$31,034</b>	<b>\$34,879</b>	<b>\$6,705,821</b>	<b>\$6,420,700</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,420,700</b>
<b>Appropriated Funds</b>	<b>\$6,740,700</b>	<b>\$920,175</b>	<b>\$5,532,525</b>	<b>\$6,452,700</b>		<b>\$6,420,700</b>	<b>\$888,175</b>	<b>\$5,532,525</b>	<b>\$6,420,700</b>	
<b>Variance</b>	<b>\$0</b>	<b>\$916,330</b>	<b>\$5,501,491</b>	<b>\$6,417,821</b>		<b>\$0</b>	<b>\$888,175</b>	<b>\$5,532,525</b>	<b>\$6,420,700</b>	

**Total expenditures for FY 2018 - 2019 biennium as of 10/31/2017: \$34,879**

## 4.2. Year-to-Date Expenditures

Year-to-Date Budget and Expenditures for EDW/EDG Initiatives, are provided in the table below.

Year-to-Date Budget & Expenditures											
Budget and Expenditures as of <b>October 31, 2017</b>											
<b>Adjusted Appropriated Funds with MOF</b>											
	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017	AY2018
General Revenue	\$ 5,221,467	\$ 5,221,467	\$ 352,068	\$ 6,538,901	\$ 318,257	\$ 2,601,088	\$ 207,894	\$ 10,352,835	\$ 4,263,565	\$ 6,297,166	\$ 920,175
Federal Funds	\$ 4,778,533	\$ 4,778,533	\$ 2,732,777	\$ 3,361,130	\$ 2,853,399	\$ 16,928,199	\$ 1,719,440	\$ 44,351,851	\$ 31,247,878	\$ 36,224,116	\$ 5,820,525
<b>Total</b>	<b>\$ 10,000,000</b>	<b>\$ 10,000,000</b>	<b>\$ 3,084,845</b>	<b>\$ 9,900,031</b>	<b>\$ 3,171,656</b>	<b>\$ 19,529,287</b>	<b>\$ 1,927,334</b>	<b>\$ 54,704,686</b>	<b>\$ 35,511,443</b>	<b>\$ 42,521,282</b>	<b>\$ 6,740,700</b>
<b>Expenditures by LBB OOE</b>											
Object of Expense	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017	AY2018
2001 - Professional Fees and Services	\$ 596,176	\$ 893,427	\$ 2,252,830	\$ 1,445,860	\$ 3,164,376	\$ 1,642,188	\$ 1,826,854	\$ 4,586,026	\$ 5,287,498	\$ 2,619,899	\$ 32,500
2003 - Consumable Supplies	\$ 29	\$ -	\$ -	\$ 103	\$ -	\$ -	\$ 136	\$ 53	\$ -	\$ -	\$ -
2007 - Rent - Machine and Other	\$ -	\$ -	\$ 15	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2009 - Other Operating Expense	\$ -	\$ 12,271	\$ 7,736	\$ 18,044	\$ 7,280	\$ 8,051	\$ 100,343	\$ 14,526,008	\$ 104,606	\$ 2,545,405	\$ 2,379
2004 - Utilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 115	\$ 5,341	\$ 31,985	\$ -
5000 - Capital Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,500,000	\$ -	\$ -	\$ -
<b>Grand Total</b>	<b>\$ 596,176</b>	<b>\$ 905,727</b>	<b>\$ 2,260,581</b>	<b>\$ 1,464,007</b>	<b>\$ 3,171,657</b>	<b>\$ 1,650,238</b>	<b>\$ 1,927,333</b>	<b>\$ 24,612,202</b>	<b>\$ 5,397,445</b>	<b>\$ 5,197,289</b>	<b>\$ 34,879</b>
Expenditures above do not include non-capital expenditures; nor EDW - NCC											
<b>MOF on Expenditures</b>											
	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017	AY2018
EDG -General Revenue	\$ -	\$ -	\$ -	\$ -	109,880	57,643	127,769	1,851,120	456,845	788,714	3,845
EDG - Federal Funds	\$ -	\$ -	\$ -	\$ -	988,918	517,608	1,016,102	7,392,249	3,810,236	4,408,575	31,034
sub-total EDG	\$ -	\$ -	\$ -	\$ -	1,098,798	575,251	1,143,871	9,243,369	4,267,082	5,197,289	34,879
EDW - General Revenue	596,176	684,350	227,241	149,069	208,378	108,588	80,124	3,614,103	121,507	-	-
EDW - Federal Funds	-	221,377	2,033,340	1,314,938	1,864,481	966,399	703,338	11,754,730	1,008,857	-	-
sub-total EDW	596,176	905,727	2,260,581	1,464,007	2,072,859	1,074,987	783,462	15,368,833	1,130,364	-	-
EDW-NCC - General Revenue	-	-	-	-	-	-	-	-	567,602	-	-
EDW-NCC - Federal Funds	-	-	-	-	-	-	-	-	-	-	-
sub-total EDW-NCC	-	-	-	-	-	-	-	-	567,602	-	-
General Revenue	596,176	684,350	227,241	149,069	318,258	166,231	207,893	5,465,223	1,145,954	788,714	3,845
Federal Funds	-	221,377	2,033,340	1,314,938	2,853,399	1,484,007	1,719,440	19,146,979	4,819,093	4,408,575	31,034
<b>Grand Total</b>	<b>596,176</b>	<b>905,727</b>	<b>2,260,581</b>	<b>1,464,007</b>	<b>3,171,657</b>	<b>1,650,238</b>	<b>1,927,333</b>	<b>24,612,202</b>	<b>5,965,047</b>	<b>5,197,289</b>	<b>34,879</b>
Expenditures above do not include non-capital expenditures; EDW - NCC is included											
<b>Outstanding Encumbrances</b>											
	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017	AY2018
General Revenue	-	-	-	-	-	-	-	-	-	-	\$ 201,827
Federal Funds	-	-	-	-	-	-	-	-	-	-	\$ 606,133
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 807,960</b>
<b>Informational Dollars (non-capital)</b>											
	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017	AY2018
General Revenue	-	-	-	-	-	-	-	\$ 28,501	\$ 18,914	-	-
Federal Funds	-	-	-	-	-	-	-	\$ 256,513	\$ 169,901	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 285,014</b>	<b>\$ 188,815</b>	<b>-</b>	<b>-</b>

## Section 5. Status

Project Milestones	Planned Start Date mm/dd/yyyy	Actual Start Date mm/dd/yyyy	Planned Finish Date mm/dd/yyyy	Actual Finish Date mm/dd/yyyy	Percentage Complete
<b>EDG Implementation Phase:</b>	04/06/2015	08/20/2015	01/01/2022		31%
<b>Medicaid Focused Enterprise Master Data Management System:</b>					
• Data and Information Management Phase 1 – EMDM Member/Provider Select Systems With Limited Capabilities	04/06/2015	08/20/2015	08/31/2016	08/31/2016	100%
• Data Quality and Data Standards Phase 1 – Metric Definition, Implement Solution and Profiling	04/06/2015	08/20/2015	08/31/2016	08/31/2016	100%
• Data and Information Management Phases 2-4	05/01/2016	09/22/2016	12/01/2021		24%
• Data Quality and Data Standards Phases 2-4	07/01/2017	09/22/2016	09/01/2021		24%
<b>Metadata Repository:</b>					
• Metadata Management Phase 1 – Collect and Publish Metadata for Various Systems	04/06/2015	08/20/2015	02/28/2017	02/28/2017	100%
• Metadata Management Phase 2 – Implement Change Control Process	05/04/2015	10/15/2015	02/28/2017	02/28/2017	100%
• Metadata Management Phase 3	04/01/2017	03/01/2017	11/30/2018		22%
• Reference Data Management Phase 1	01/01/2018		11/30/2019		0%
• Reference Data Management Phase 2	09/01/2019		01/01/2022		0%
<b>Information Management Program:</b>					
• Data Architecture Phase 1	01/01/2017		11/01/2018		0%
• Data and Information Control Phase 1	01/01/2018		07/30/2019		0%
• Data Architecture Phase 2	12/01/2018		11/01/2021		0%
• Data and Information Control Phase 2	02/01/2019		01/01/2022		0%



## Section 6. Glossary

Term / Acronym	Definition
CMS	Centers for Medicare and Medicaid Services
DCS	Data Center Services
DAR	Data Asset Repository
DAT	Data and Architecture
DBITS	Deliverables Based Information Technology Services
DFPS	Department of Family and Protective Services
DIC	Data and Information Controls
DIM	Data and Information Management
DIR	Department of Information Resources
EDG	Enterprise Data Governance
EMDM	Enterprise Master Data Management
FFY	Federal Fiscal Year
HHS	Health and Human Services
HHSC	Health and Human Services Commission
IAPD-U	Implementation Advance Planning Document Update (Federal)
ICD	International Classification of Diseases
IT	Information Technology
LBB	Legislative Budget Board
MRDM	Metadata and Reference Data Management
SME	Subject Matter Expert

## Appendix A. Rider 73 Expenditures

This section includes the expenditures for Enterprise Data Warehouse (EDW)/Enterprise Data Governance (EDG) for FY2016 - 2017 biennium as reported in the Rider 73 report. This appendix will be removed from future Rider 151 reports as all EDW and EDG expenditures for FY2016 - 2017 biennium are completely reported.

Rider 73 Reporting Categories	SFY 2016					SFY 2017				
	Forecast	Expended			Balance	Forecast	Expended			Balance
		GR	FED	AF			GR	FED	AF	
<b>Enterprise Data Warehouse</b>										
HHSC Contracted Services	\$1,000,000	\$97,990	\$885,530	\$983,520	\$16,480	\$0	\$0	\$0	\$0	\$0
Software Licensing/Maintenance	\$70,000	\$13,386	\$40,157	\$53,542	\$16,458	\$0	\$0	\$0	\$0	\$0
Networking	\$10,000	\$1,335	\$4,006	\$5,341	\$4,659	\$0	\$0	\$0	\$0	\$0
EDW Contracted Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Independent Verification & Validation	\$87,960	\$8,796	\$79,164	\$87,960	\$0	\$0	\$0	\$0	\$0	\$0
Data Center Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Administrative Costs	\$140	\$0	\$0	\$0	\$140	\$0	\$0	\$0	\$0	\$0
<b>Enterprise Data Warehouse</b>	<b>\$1,168,100</b>	<b>\$121,507</b>	<b>\$1,008,857</b>	<b>\$1,130,364</b>	<b>\$37,736</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Enterprise Data Governance</b>										
HHSC Contracted Services	\$3,828,720	\$382,872	\$3,445,848	\$3,828,720	\$0	\$3,210,000	\$315,000	\$2,835,000	\$3,150,000	\$60,000
EDG Contracted Services	\$241,806	\$23,745	\$213,703	\$237,448	\$4,358	\$454,346	\$25,406	\$228,650	\$254,055	\$200,291
Hardware	\$0	\$0	\$0	\$0	\$0	\$35,465	\$7,996	\$23,989	\$31,985	\$3,480
Software	\$0	\$0	\$0	\$0	\$0	\$3,640	\$0	\$0	\$0	\$3,640
Software Licensing/Maintenance	\$67,059	\$13,369	\$40,107	\$53,476	\$13,583	\$1,499,405	\$374,851	\$1,124,554	\$1,499,405	\$0
Data Center Services	\$177,795	\$36,859	\$110,578	\$147,438	\$30,357	\$641,683	\$65,461	\$196,383	\$261,844	\$379,839
<b>Enterprise Data Governance</b>	<b>\$4,315,380</b>	<b>\$456,845</b>	<b>\$3,810,236</b>	<b>\$4,267,082</b>	<b>\$48,298</b>	<b>\$5,844,539</b>	<b>\$788,714</b>	<b>\$4,408,575</b>	<b>\$5,197,289</b>	<b>\$647,250</b>
<b>Contracts at 100% GR (due to cancellation of EDW)</b>										
Oracle ULA - RFD	\$559,216	\$559,216	\$0	\$559,216	\$0	\$0	\$0	\$0	\$0	\$0
Network Circuit	\$8,386	\$8,386	\$0	\$8,386	\$0	\$0	\$0	\$0	\$0	\$0
<b>Contracts at 100% GR (due to cancellation of EDW)</b>	<b>\$567,602</b>	<b>\$567,602</b>	<b>\$0</b>	<b>\$567,602</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total</b>	<b>\$6,051,082</b>	<b>\$1,145,954</b>	<b>\$4,819,093</b>	<b>\$5,965,047</b>	<b>\$86,034</b>	<b>\$5,844,539</b>	<b>\$788,714</b>	<b>\$4,408,575</b>	<b>\$5,197,289</b>	<b>\$647,250</b>
Appropriated Funds	\$35,511,443	\$4,263,565	\$31,247,878	\$35,511,443		\$42,521,282	\$4,263,565	\$31,247,878	\$35,511,443	
Variance	\$29,460,361	\$3,117,611	\$26,428,785	\$29,546,396		\$36,676,743	\$3,474,851	\$26,839,303	\$30,314,154	

Total expenditures for FY2016 - 2017 biennium as of 10/31/2017: \$11,162,336