



Health and Human Services Commission (HHSC)

**Enterprise Data Warehouse / Enterprise Data
Governance Initiative**

**Quarterly Report
To the Legislative Budget Board and the Governor's Office**

**As Required by Rider 73
Article II, HHSC, 2016-17 General Appropriations Act**

September 1, 2017

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Section 1. Overview

This report is being submitted by the Health and Human Services Commission (HHSC) to the Legislative Budget Board (LBB) and the Office of the Governor, State of Texas, as stipulated in Rider 73 of the 2016 -17 General Appropriations Act (Article II, HHSC, 84th Legislature) regarding the development of an enterprise data warehouse for health information:

Enterprise Data Warehouse (EDW). *Out of funds appropriated in Strategy A2.1 Consolidated System Support, the amount of \$10,560,731 in General Revenue and any associated matching Federal Funds for the biennium may only be expended to develop/implement an enterprise data warehouse and enterprise data governance. Prior to expending any funds for the enterprise data warehouse and enterprise data governance, the agency must receive prior written approval from the Legislative Budget Board. To request to expend funds, HHSC shall submit a written request to the Legislative Budget Board, which shall include a detailed plan for the project, a proposed schedule of expenditures, and information on the specific data sets being worked and how the new data will be combined and coordinated with the long-term plan for other data sets. The new data may include but is not limited to the following: immunizations, vital statistics certificates, and mental health and substance abuse information. The request shall be considered to be approved unless the Legislative Budget Board issues a written disapproval within 30 business days after the date the Legislative Budget Board staff concludes its review of the proposal to expend the funds and forwards its review to the Chair of the House Appropriations Committee, Chair of the Senate Finance Committee, Speaker of the House, and Lieutenant Governor. Any requests for additional information from the Legislative Budget Board shall interrupt the counting of the 30 business days.*

HHSC shall submit quarterly reports to the Legislative Budget Board and the Governor beginning on December 1, 2015, reflecting actual expenditures and accomplishments to date. The reports shall also reflect an estimate of planned expenditures and accomplishments for the remainder of the 2016-17 biennium.

Project Scope Change

As previously reported, HHSC announced the cancellation of the EDW portion of the project on June 28, 2016. Activities under the Enterprise Data Governance (EDG) portion of the project are continuing per the original schedule. This report documents the accomplishments and planned accomplishments for only EDG but includes expenditures for both EDW and EDG and will continue to report both expenditures until all incurred costs for EDW have been expensed and reported.

Due to the large number of acronyms contained in this report, a glossary defining acronyms is provided in Section 6 of this document.

Section 2. Accomplishments to Date

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

Note: Accomplishments reported previously are *italicized*.

2.1. Funding Approval / Authorization

- Submitted annual IAPD-U to CMS requesting funding authorization prior to the start of the new federal fiscal year.

2.2. Enterprise Data Governance (EDG)

a) Metadata Management

- Completed Data Asset Repository (DAR) site usage and activity reporting development.
- Continued updating business metadata in the DAR.
- Continued processing technical artifacts into metadata and model repositories.
- Hired a new Business Analyst and a System Analyst to transition ongoing business and technical metadata activities from Sense Corp, current EDG Vendor.
- *Completed bulk import functionality in the Data Asset Repository (DAR).*
- *Continued updating technical metadata and loaded the enhanced metadata in to the Metadata Repository.*
- *Continued collaborating with HHS Source Systems on the adoption of EDG Change Management automation.*
- *Completed migration of Metadata Manager and Business Glossary from Test to Production environment.*
- *Continued socializing and enhancing business metadata in the DAR.*
- *Continued collecting and updating technical metadata and loading the enhanced metadata into the Metadata Repository.*
- *Completed reviewing HHS Organization Structure and developed organization proof of concept in DAR.*
- *Commenced work on bulk import functionality in DAR.*
- *Commenced migration of Metadata Manager and Business Glossary from Test to Production environment.*
- *Commenced design discussions for DAR Organizational Transformation.*

- *Commenced meetings with Subject Matter Experts (SMEs) from various program areas to update business metadata in the DAR.*
- *Continued collecting and updating technical metadata from source systems.*
- *Completed standardization of HHS DAR data for load into the Metadata Repository.*
 - *Launched DAR user interface for business users to create and relate business metadata.*
 - *Completed gathering updated metadata from Texas Integrated Eligibility Redesign System (TIERS), NE Provider, Premiums Payable System (PPS), Medical Transportation Program (MTP) and Texas Medical Transportation System (TMTS).*
- *Work continues on the following tasks reported in July:*
 - *Continue loading source systems metadata into the enterprise Metadata Repository.*
 - *Continuing efforts to socialize DAR with HHS executive management.*
 - *Continuing on-going collaboration with Health and Human Services (HHS) Enterprise source systems on the adoption of EDG data change notification automation.*

b) Enterprise Master Data Management (EMDM) - Initial focus on Client and Provider Master Index creation will provide the ability to uniquely identify a client or provider across enterprise source systems. This is critical for accurate analytics as master data will provide the ability to accurately report on an individual client or provider from disparate data sets.

- *Completed EMDM Release 2 development and testing.*
- *Completed EMDM Release 2 user acceptance testing.*
- *Conducted EMDM Release 2 training.*
- *Hired a new Developer and a Business Analyst to transition EMDM activities from Sense Corp.*
- *Finalized knowledge transfer plan to transition EMDM activities from current vendor to the EDG core team.*
- *Completed business requirements and high level design for new sources/attributes for Release 2.*
- *Gathered requirements for the Master Data Repository (MDR) for publishing Master Client, Master Provider and Master Reference Data from the EMDM system.*
- *Commenced writing test cases for Release 2.*
- *Completed development for new sources/attributes for Release 1.*
- *Completed loading data from Release 1 source systems and enabled daily jobs to load data on a scheduled basis.*
- *Completed upgrading Informatica toolsets.*
- *Continued performing data profiling and analysis on Release 2 data*

sources.

- *Completed regression testing on all daily jobs and the user interface in Test environment.*
- *Completed implementing EMDM solution for Release 1 source systems.*
- *Identified additional source systems for EMDM Release 2 activities.*
- *Commenced EMDM Release 2 implementation activities.*
- *Commenced reviewing details of Informatica toolsets upgrade and prepared detailed steps to start upgrade process.*
- *Continued on-going data load process to load data from Release 1 source systems before enabling daily jobs to load data on a scheduled basis.*
- *Completed deployment plan in July 2016 and continued work on activities related to deployment in August 2016.*
- *Commenced User Acceptance Testing (UAT) sessions with SMEs.*
- *Continued to work on the training plan and training sessions targeted for completion in August 2016.*
- *Commenced Release 2 Planning and Discovery activities.*
- *Completed development activities for Release 1 in April 2016.*
- *Completed development of test plans in April 2016.*
- *Continuing to execute test cases, bug fixes, and addressing issues found during testing.*
- *Commenced development of high level plans for deployment and training phases.*
- *Completed analysis and design for Release 1 in February 2016.*
- *Completed project knowledge transfer plan in February 2016.*
- *Completed source data history analysis for Release 1 in February 2016.*
- *Completed acquisition and acceptance of EMDM hardware in the Department of Information Resources/ Data Center Services (DIR/DCS) Austin Data Center in December 2015.*
- *Completed data profiling for all source systems within Release 1 in November 2015.*
- *Completed the gathering of business requirements for Release 1 in November 2015.*
- *Completed the implementation of the EMDM development and test environments in DCS in October 2015.*

Section 3. FY2016-2017 Planned Accomplishments

3.1. Funding Approval/ Authorization

- Obtain funding authorization from CMS prior to the start of federal fiscal year 2018.

3.2. Enterprise Data Governance (EDG)

a) Metadata Management

- Continue enhancing technical and business metadata in the Metadata Repository and the Data Asset Repository (DAR).
- Continue collaborating with HHS Source Systems on the adoption of EDG Change Management automation.

b) Enterprise Master Data Management (EMDM)

- Complete remaining Release 2 implementation activities.
- Close out Release 2 project with Sense Corp.
- Transition on going EMDM project activities from Sense Corp to EDG Core team.
- Hire additional resources to transition all activities from Sense Corp.
- Commence Release 3 implementation activities.

Section 4. Project Expenditures for 2016-2017

Expenditures for 2016 - 2017 Biennium as of July 31, 2017

Rider 73 Reporting Categories	SFY 2016					SFY 2017				
	Forecast	Expended			Balance	Forecast	Expended			Balance
		GR	FED	AF			GR	FED	AF	
Enterprise Data Warehouse										
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
Enterprise Data Warehouse	\$1,168,100	\$121,507	\$1,008,857	\$1,130,364	\$37,736	\$0	\$0	\$0	\$0	\$0
Enterprise Data Governance										
HHSC Contracted Services	\$3,828,720	\$382,872	\$3,445,848	\$3,828,720	\$0	\$3,210,000	\$225,000	\$2,025,000	\$2,250,000	\$960,000
EDG Contracted Services	\$241,806	\$23,745	\$213,703	\$237,448	\$4,358	\$454,346	\$16,386	\$147,470	\$163,856	\$290,490
Software **	\$0	\$0	\$0	\$0	\$0	\$16,530	\$4,133	\$12,398	\$16,530	\$0
Software Licensing/Maintenance **	\$67,059	\$13,369	\$40,107	\$53,476	\$13,583	\$1,486,515	\$366,391	\$1,099,174	\$1,465,566	\$20,949
Hardware	\$0	\$0	\$0	\$0	\$0	\$35,465	\$5,814	\$17,442	\$23,256	\$12,209
Data Center Services	\$177,795	\$36,859	\$110,578	\$147,438	\$30,357	\$641,683	\$45,288	\$135,865	\$181,153	\$460,530
Enterprise Data Governance	\$4,315,380	\$456,845	\$3,810,236	\$4,267,082	\$48,298	\$5,844,539	\$663,012	\$3,437,349	\$4,100,361	\$1,744,178
Contracts at 100% GR (due to cancellation of EDW)										
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
Contracts at 100% GR (due to cancellation of EDW)	\$567,602	\$567,602	\$0	\$567,602	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$6,051,082	\$1,145,954	\$4,819,093	\$5,965,047	\$86,034	\$5,844,539	\$663,012	\$3,437,349	\$4,100,361	\$1,744,178
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	\$3,600,553	\$27,810,529	\$31,411,082	

Total Expenditures as of 07/31/2017 - \$10,065,409

* EDW administration charges were incorrectly coded to a Capital department id in SFY2016. HHSC completed the Expenditure Transfer Voucher (ETV) to move this charges to a Non-Capital department ID.

** HHSC separated forecast and expenditure line for "Software Licensing/Maintenance" versus "Software" purchase. Previously, both purchase and maintenance costs were included under "Software."

*** Oracle ULA - this was an EDW contract; this is a "non-cancellable" contract; HHSC is not able to request federal funds for remaining invoices from this contract after EDW project cancellation; therefore the SFY 2016 4th Quarter will be 100% GR. In FY17, HHSC has reallocated the Oracle ULA contract amount to programs and projects still using these services.

**** Network Circuits - this was an EDW contract; this is "non-cancellable" contract; HHSC was not able to request federal funds for this contract after EDW project cancellation; therefore, the July and August 2016 invoices for this contract were 100% GR. For SFY 2017, the Network Circuits costs are assumed by EDG (and expenditures for these are included in the Hardware line entry above) since EDG will benefit from these circuits.

Section 5. Project-to-Date Budget and Expenditures

Year-to-Date Budget & Expenditures Rider 73 Reporting - FY2017 4th Qtr Budget and Expenditures as of July 31, 2017

Adjusted Appropriated Funds with MOF

	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017
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
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
Total	\$ 10,000,000	\$ 10,000,000	\$ 3,084,845	\$ 9,900,031	\$ 3,171,656	\$ 19,529,287	\$ 1,927,334	\$ 54,704,686	\$ 35,511,443	\$ 42,521,282

Expenditures by LBB OOE

Object of Expense	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017
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	\$ 2,238,609
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	\$ 1,838,496
2004 - Utilities								\$ 115	\$ 5,341	\$ 23,256
5000 - Capital Expenditures								\$ 5,500,000		
Grand Total	\$ 596,176	\$ 905,727	\$ 2,260,581	\$ 1,464,007	\$ 3,171,657	\$ 1,650,238	\$ 1,927,333	\$ 24,612,202	\$ 5,397,445	\$ 4,100,361

Expenditures above do not include non-capital expenditures; nor EDW - NCC

MOF on Expenditures

	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017
EDG -General Revenue					109,880	57,643	127,769	1,851,120	456,845	663,012
EDG - Federal Funds					988,918	517,608	1,016,102	7,392,249	3,810,236	3,437,349
sub-total EDG	-	-	-	-	1,098,798	575,251	1,143,871	9,243,369	4,267,082	4,100,361
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	663,012
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	3,437,349
Grand Total	596,176	905,727	2,260,581	1,464,007	3,171,657	1,650,238	1,927,333	24,612,202	5,965,047	4,100,361

Expenditures above do not include non-capital expenditures; EDW - NCC is included

Outstanding Encumbrances

	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017
General Revenue	-	-	-	-	-	-	-	\$ -	\$ (31,482)	\$ (227,941)
Federal Funds	-	-	-	-	-	-	-	\$ -	\$ (283,341)	\$ (1,255,694)
Total	-	-	-	-	-	-	-	\$ -	\$ (314,824)	\$ (1,483,635)

Informational Dollars (non-capital)

	AY2008	AY2009	AY2010	AY2011	AY2012	AY2013	AY2014	AY2015	AY2016	AY2017
General Revenue	-	-	-	-	-	-	-	\$ 28,501	\$ 18,914	-
Federal Funds	-	-	-	-	-	-	-	\$ 256,513	\$ 169,901	-
Total	-	-	-	-	-	-	-	\$ 285,014	\$ 188,815	-

Section 6. Glossary

Term / Acronym	Definition
CMS	Centers for Medicare and Medicaid Services
DCS	Data Center Services
DAR	Data Asset Repository
DIR	Department of Information Resources
EDG	Enterprise Data Governance
EDW	Enterprise Data Warehouse
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)
LBB	Legislative Budget Board
MTP	Medical Transportation Program
NE Provider	“NE” is a two-character alpha designator for mainframe hardware that has been retired but the name for the system has been retained for continuity
PPS	Premiums Payable System
SME	Subject Matter Expert
TIERS	Texas Integrated Eligibility Redesign System
TMTS	Texas Medical Transportation System