

Policy Level

PLACEHOLDER

PL-BE Develop & Implement Enterprise Data Warehouse

Agency Recommendation Summary Text

The Health Care Authority (HCA) requests a placeholder in the 2017-2019 biennium to build out its data infrastructure and analytic capacity to inform decision making in a complex and rapidly evolving health care environment. Health care has seen a major transition from fee for service to managed care, a massive increase in enrollment under the Affordable Care Act, and a national imperative to move towards value based purchasing and the integration of behavioral and physical health care and substance use disorder treatment.

Fiscal Summary

Operating Expenditures	FY 2018	FY 2019	FY 2020	FY 2021
Fund 001-1 GF-State				
Fund 001-2 GF-Federal				
Total Cost				
Staffing	FY 2018	FY 2019	FY 2020	FY 2021
FTEs				
Revenue	FY 2018	FY 2019	FY 2020	FY 2021
Fund 001-2 GF-Federal				
Total Revenue				
Object of Expenditure	FY 2018	FY 2019	FY 2020	FY 2021
Obj. A – Salaries				
Obj. B – Benefits				
Obj. C – Contracts				
Obj. E – Goods & Services				

Package Description

The HCA has overseen a major transformation in health care purchasing over the past five years. The transition from fee-for-service to managed care has fundamentally changed the data and information needs for effective decision making. Further, the Affordable Care Act and rapid expansion of Medicaid has brought a national focus, and federal funds, to the need of all states to dramatically increase their ability to understand the current environment, initiate change, and monitor, assess, and improve on those changes over time.

The HCA is rising to the challenge to significantly improve its data infrastructure and analytic capability to inform day-to-day decision-making, enable effective strategic planning, coordinate with related state initiatives, and inform efforts to change the way health care is delivered in the state.

The HCA's strategy is to secure federal grants such as the State Innovation Model (SIM) grant, and to leverage generous federal matching opportunities to improve its data, analytic, and technical capabilities in order to make the best strategic use of its data asset while protecting the data and security of the clients the HCA serves. Health information uniquely crosses boundaries of state, local, and federal agencies, private companies, non-profits, research institutions, and a multitude of others. To serve as an effective first mover, but also to be a good partner, the HCA must have data resources that utilize current technological capability, that have imbedded quality and data security/privacy assurance, that make use of national standards, and that can be linked to related clinical and social data sources.

Decision Package Request for the Procurement of an Analytics Solution:

The HCA has laid the groundwork necessary to identify the data and analytic investments it needs make to effectively manage its day-to-day operations as the largest health care purchaser in the state, to inform its long-run strategy and policy development, and to continue to be a national leader in health care transformation that is urgently needed by the citizens of Washington. These investments are driven by the business needs of the agency and include more advanced data warehouse capability, data visualization and analytics capacity, alignment with national standards, and quality controls and privacy and security processes that take advantage of the latest information technology (IT) capability (i.e. cyber security, big data). These investments will enable the HCA to take advantage of an emerging opportunity to integrate disparate data sources. This integration is necessary and foundational to creating an expanded view of the total experience of the clients we serve.

This request includes the following for the 2017-2019 biennium:

- Data Analytics Infrastructure procurement of an Enterprise Data Warehouse (EDW) and supporting infrastructure;
- The installation and ongoing operational costs for the analytics environment;
- Quality Assurance (QA), Independent Verification and Validation (IV&V), and service integration as required by OCIO and/or CMS; and
- Resources dedicated to provide expertise to support implementation of the system.

Background:

The HCA has invested significant efforts in assessing its current state and understanding its future needs in order to identify the strategic analytic investments needed to meet the rising challenge of health care transformation. This has also included assessments by Point B and Gartner (health care IT consulting groups) of HCA's current

level of analytic maturity. These are continuing with three major initiatives/drivers that will dramatically expand its capability for data-driven decision-making:

- The Health Care Authority's Decision Support initiative;
- The Healthier Washington Analytics, Interoperability and Measurement (AIM) Program; and
- Strategic Improvement Planning through the Medicaid Information Technology Architecture (MITA 3.0)

The following provides a brief description of these three initiatives:

- **Health Care Authority's Decision Support Initiative**

The HCA established a Decision Support initiative within the agency as part of its two-year realignment effort, to align the HCA's people, infrastructure, and data to support value-based purchasing. This initiative moves the HCA forward in the use of data as an asset to make decisions using consistent, standardized, and understandable processes and promotes an ongoing cultural shift toward greater measurement, assessment, and accountability. This is also consistent with the business plan submitted to the Legislature and the Governor's Office.

- **Healthier Washington Analytics, Interoperability, and Measurement (AIM) Program**

In December 2014, the State of Washington was awarded a SIM grant (CMS-IGI-14-001). Washington's grant application proposed a multi-agency initiative called "Healthier Washington."

Led by the HCA's Policy, Planning and Performance Division, Healthier Washington involves a partnership with the Department of Social and Health Services (DSHS) and Department of Health (DOH). The overall goals of Healthier Washington are to achieve the "triple aim" of better health, better care, and lower costs. Healthier Washington proposes to do this by implementing value-based purchasing, integrating physical and behavioral health care financing and services, and building healthier communities through a collaborative, regional approach. Specifically, the SIM grant proposed an initiative featuring several key "investment areas," including:

- Payment redesign;
- Practice transformation;
- Community empowerment and accountability.

- **Strategic Improvement Planning (MITA 3.0)**

The vision of the HCA's Strategic Improvement Planning effort is to foster integrated business and IT transformation across the Medicaid enterprise to improve the administration of the program. The Centers for Medicare and Medicaid Services (CMS) requires states to align to and advance in maturity with a great degree of reliance on data and data driven decision-making. This is done through the Medicaid Information Technology Architecture (currently on version 3) maturity framework and is required in order to continue to receive enhanced Medicaid Management Information System (MMIS) Federal Financial Participation (FFP) per 42 CFR Part 433 Subpart C.

- CMS has approved federal funding for the HCA to conduct the MITA planning work. The HCA identified priority business processes tightly aligned with Decision Support. The agency's plan for data driven decision-making and data governance is in our Strategic Improvement Plan/Roadmap for Decision Support.

Moving Forward:

The HCA recognizes that, to be effective, major analytic investments need to be supported by new data processes, governance, and staff skills. The next phase of our work, thus, blends Decision Support, AIM, and strategy and planning under one governance process. The three initiatives will provide the foundation and support for the agency to engage a "federated" approach to implementing the new organizational capabilities and expanded toolset. Our workplan moving forward identifies the following milestones:

- Implementation of data governance, policies and procedures, administration and measurement of the success of data governance, and the creation of a centralized program for data stewardship;
- Quality review of data and analytics produced on behalf of the agency with oversight for the release of data to ensure appropriate controls;
- Implementation of master data management with accompanying governance of business definitions and standardization of measurements;
- Coordination of analyst activities across the agency and training on the HCA standard business intelligence tools and data sets; this will be facilitated in an organization change management plan;
- Implementation of a project management discipline with program and project work plans, schedules, and clear metrics to manage competing demands for agency resources; and
- Procurements described in this decision package.

Susan Lucas, Chief Operating Officer: 360.725.1703 or susan.lucas@hca.wa.gov

Decision Package Justification and Impacts

Performance Measure Detail:

Activity Inventory

H002 HCA Direct Operations

H003 HCA Information Technology

What specific performance outcomes does the agency expect?

The HCA expects that this procurement and accompanying agency governance and process changes will enable:

- Improved consistency in reporting;
- Efficiencies in data reporting leading to faster response to requests;
- Greater data quality;

- Improved ability to undertake advanced analytics and research;
- Improved ability to meet customer specific needs for data and information;
- Greater ability to track financial trends and mitigate risk;
- Improved ability to ensure appropriate privacy and security of client data;
- Greater ability to appropriately share data across organizations; and
- Greater transparency and ability to share data with citizens.

The HCA has a system for measuring results to measure and report on agency priorities. With new data and analytic functionality, in part supported by this request, the HCA will expand and modify its existing suite of data use and outcome measures.

What alternatives were explored by the agency and why was this option chosen?

Alternatives considered and the respective ramifications include:

- **Taking no action.**

The current infrastructure and data reporting and analytics capability in the agency met business needs when designed in 2006 and used traditional data warehousing technologies. Both the business needs and the technologies associated with analytics have changed drastically. Ten years later, the changing needs related to data exploration and analysis necessitate enhancements to the current reporting/data warehouse solution; taking no action and leaving the current data structures as the HCA pushes for innovation and data driven decision-making is not tenable. Most health care organizations are rapidly improving how they have to manage big data.

- **Modify the existing Operational Data Store (ODS).**

The ProviderOne (P1) Medicaid Management Information System (MMIS), was implemented in 2010 with an Operational Data Store (ODS) that supported operational reporting and technical analyst user needs. While this platform remains a critical source of Medicaid data, it lacks the underlying logical data model and tools to support the dynamic and evolving needs of both internal and external partners. Modification and/or enhancement of the P1 ODS, would require investing in old technologies and does not provide the analytic model transformation necessary to support the HCA's future data/analytics needs.

What are the consequences of not funding this request?

The consequences of not funding this request include:

- The HCA will not have sufficient funding to address the comprehensive needs for Decision Support and Analytics Infrastructure to improve organizational and technical capabilities in order to better leverage data across the agency; and
- The evolving demands for consistent, high quality, reliable and timely data requests will not be able to be fulfilled for the scope and scale of HCA's health care transformation work;

How has or can the agency address the issue or need in its current appropriation level?

Even though the intent is to request enhanced federal match (likely a mix of 90 percent and 75 percent), the agency does not currently have the state appropriation level necessary to match the enhanced federal funding. The bullets list is a brief description of the agency accomplishments with its existing appropriation level:

- Foundational strategic improvement planning for decision support;
- Independent assessment of the analytic environment by an outside contractor (Gartner);
- Procurement of Master Data Management (MDM) with the Healthier Washington grant (SIM) funds; and
- Identification of requirements and business needs for the EDW solution [i.e. Request for Information (RFI)].

Provide references to any supporting literature or materials:

The HCA has significant supporting literature to include (which is available on request):

- Healthier Washington AIM grant documentation;
- Point B analytics analysis;
- Gartner analytics analysis;
- Decision Support Workgroup recommendations;
- Centers for Medicare and Medicaid Services Planning –Advance Planning Document (P-APD) for Decision Support;
- Strategic Improvement Plan for Decision Support (MITA 3.0);
- Project management artifacts for the various analytic tool procurements; and
- Governance documents for Decision Support.

Base Budget

If the proposal is an expansion or alteration of a current program or service, provide information on the resources now devoted to the program or service.

As part of the Healthier Washington (SIM) grant, an investment is being made to acquire and deploy a master/meta data management solution.

Expenditure, FTE and Revenue Assumptions, Calculations and Details:

The budget is only a reasonable estimate to serve as a placeholder. The cost estimates of the EDW solution will be updated when we have completed Agency planning efforts to identify specific business needs and requirements.

Expenditure Calculations and Assumptions:

Expenditures included in Addendum Part 1 are the estimated overall cost of the solution which assumes a 33 percent yearly maintenance.

Impacts to Communities and Other Agencies

Fully describe and quantify expected impacts on state residents and specific populations served.

The funding requested in this proposal provides the HCA with the tools necessary to make sound decisions for health care services effecting approximately 1.8 million Medicaid recipients and eventually the 365,000 public employees, retirees and their families. Infrastructure to provide consistent, high quality, reliable and timely data to further the goals of Healthier Washington. Better availability of reliable, consistent, and quality will have a consistently positive impact for both state and local governments, allowing better decisions for their respective constituents.

The core objectives of this funding request is to provide the following:

1. Strengthen HCA's data-driven decision-making capabilities;
2. Ensure information is consistently defined and well understood;
3. Create trusted data as an enterprise asset; and
4. Improve the consistency of data use across an enterprise.

What are other important connections or impacts related to this proposal?

Does this request have:

Regional/county impacts?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Other local government impacts?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Tribal government impacts?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Other state agency impacts?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Does this request:

Have any connection to Puget Sound recovery?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Respond to specific task force, report, mandate or executive order?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Contain a compensation change?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Require a change to a collective bargaining agreement?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Create facility/workplace needs or impacts?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Contain capital budget impacts?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Require changes to existing statutes, rules or contracts?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Have any relationship to or result from litigation?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

If “Yes” to any of the above, please provide a detailed discussion of connections/impacts.

External HCA stakeholders, including Health Care Delivery Systems will be able to use the consistent, high quality, reliable and timely data to make sound business decisions.

The better access to data will have an overwhelming positive impact. Known benefits include:

- Support behavioral health systems;
- Research requests by universities;
- Legislative requests;
- Healthcare entities at the local, state, and federal levels looking for consistent sound data to make thorough data supported decisions about healthcare in the State of Washington;
- Reliable consistent data to preform research and completing outcome measure to assist Healthier Washington; and
- General collaboration with health care providers who strive to provide quality health care in the state of Washington.

Information Technology (IT)

Does this request include funding for any IT-related costs, including hardware, software, services (including cloud-based services), contracts or IT staff?

No



Yes

Continue to IT Addendum below and follow the directions on the bottom of the addendum to meet requirements for OCIO review.)

2017-2019 Biennium Information Technology Addendum

Part 1: Itemized IT Costs

Please itemize any IT-related costs, including hardware, software, services (including cloud-based services), contracts (including professional services, quality assurance, and independent verification and validation), or IT staff. Be as specific as you can (See chapter 12.1 of the operating budget instructions for guidance on what counts as “IT-related costs”).

Information Technology Items in this DP	FY 2018	FY 2019	FY 2020	FY 2021
Metadata/Master data management	\$0	\$400,000	\$400,000	\$400,000
Analytical tools	\$2,750,000	\$907,500	\$907,500	\$907,500
Data staging platform/data lake	\$1,500,000	\$495,000	\$495,000	\$495,000
Data integration tools	\$600,000	\$198,000	\$198,000	\$198,000
Enterprise Data Warehouse	\$5,000,000	\$1,650,000	\$1,650,000	\$1,650,000
Measure and analytic services	\$3,000,000	\$0	\$0	\$0
Security/Privacy tools	\$450,000	\$148,500	\$148,500	\$148,500
QA/IV&V services	\$1,200,000	\$0	\$0	\$0
State operations staff	\$0	\$0	\$0	\$0
Integrator	\$2,500,000	\$0	\$0	\$0
Total Cost	\$17,000,000	\$3,799,000	\$3,799,000	\$3,799,000

Part 2: Identifying IT Projects

If the investment proposed in the decision package is the development or acquisition of an IT project/system, or is an enhancement to or modification of an existing IT project/system, it will also be reviewed and ranked by the OCIO as required by RCW 43.88.092. The answers to the three questions below will help OFM and the OCIO determine whether this decision package is, or enhances/modifies, an IT project:

Does this decision package fund the development or acquisition of a new or enhanced software or hardware system or service?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does this decision package fund the acquisition or enhancements of any agency data centers? (See OCIO Policy 184 for definition.)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does this decision package fund the continuation of a project that is, or will be, under OCIO oversight? (See OCIO Policy 121.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

If “Yes” to any of these questions, complete a concept review with the OCIO before submitting this budget request. Refer to chapter 12.2 of the operating budget instructions for more information.