Policy Level

Agency:
107 Health Care Authority on Behalf of the Health Benefit Exchange

Decision Package Code/Title:
PL - MP Modernizing Healthplanfinder Ph2

Agency RecSum:

The Health Benefit Exchange (Exchange) will continue its modernization efforts; utilizing cloud native technologies and *Washington Healthplanfinder* (HPF) system architecture, to modularize the current application and improve opportunities for reuse. Modernizing and modularizing HPF will improve the customer experience by making the system more secure, easier to manage and update, and less reliant on any single vendor.

Fiscal detail:

Operating Expenditures	FY 2024	FY 2025	FY 2026	FY 2027
17T-1 HBEA	$1,030,000	$909,000	$1,734,000	$1,824,000
001-C GF-Federal	$3,328,000	$2,861,000	$2,129,000	$2,037,000
Total Expenditures	**$4,358,000**	**$3,770,000**	**$3,863,000**	**$3,861,000**
Biennial Totals	**$8,128,000**		**$7,724,000**	
Staffing	FY 2024	FY 2025	FY 2026	FY 2027
FTEs	0	0	0	0
Average Annual	**0**		**0**	
Object of Expenditure	FY 2024	FY 2025	FY 2026	FY 2027
Obj. C	$4,358,000	$3,770,000	$3,863,000	$3,861,000
Revenue	FY 2024	FY 2025	FY 2026	FY 2027
17T-1 HBEA	$1,030,000	$909,000	$1,734,000	$1,824,000
001-C GF-Federal	$3,328,000	$2,861,000	$2,129,000	$2,037,000
Total Revenue	**$4,358,000**	**$3,770,000**	**$3,863,000**	**$3,861,000**
Biennial Totals	**$8,128,000**		**$7,724,000**	

Package Description

What is the problem, opportunity or priority you are addressing with the request?

The *Washington Healthplanfinder* (HPF) system launched in 2014 to support Washington's implementation of the Affordable Care Act (ACA). The Exchange built HPF using monolithic architecture, which was a common approach for enterprise applications. Technology has since

progressed, and a more modern and modular architecture is needed to meet the organization's evolving needs for quicker and higher quality product delivery.

HPF is well positioned to shift to cloud native technologies that drive innovation, reduce risk, and stabilize costs. The current system is extremely stable, but its monolithic architecture is built on non-cloud native platforms. The technologies that undergird the application are approaching end of life, and expediting the upgrade is more cost effective than delaying. Re-platforming HPF will also reduce the costs of supporting non-cloud native infrastructure and provide the Exchange with new ways to scale system components.

Modularizing HPF's business functions will allow greater flexibility as system changes can be made independently of each other. The three modules along with shared services delivered during the 2021-2023 biennium represent significant progress toward developing technical solutions and architectural patterns that will be iteratively improved in the next stage of modernization. This request will allow the Exchange to accelerate these efforts, adding system value to customers.
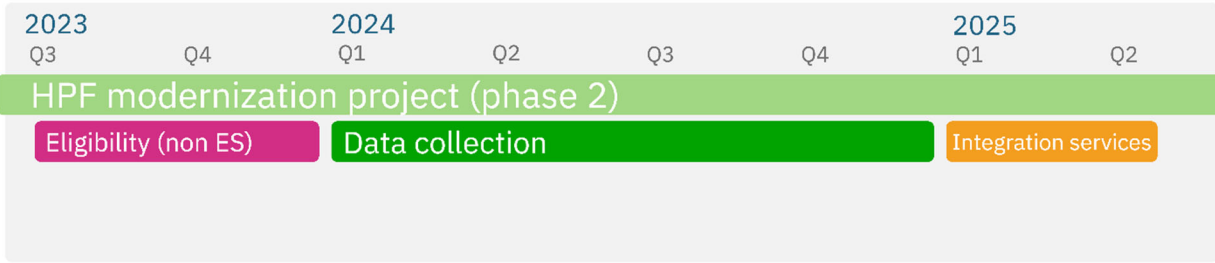
What is your proposal?

We will continue re-architecting the HPF platform to a cloud native, modular design using microservices and containers. These services will be highly maintainable and testable, independently deployable, and organized around business capabilities. This approach will enable the rapid, frequent, and reliable delivery of system changes.

The Exchange is on track to deliver three modules along with shared services in the current 2021-2023 biennium. This request would support three additional modules along with shared services in the 2023-2025 biennium, with remaining system functions planned to be completed by the end of the 2027.
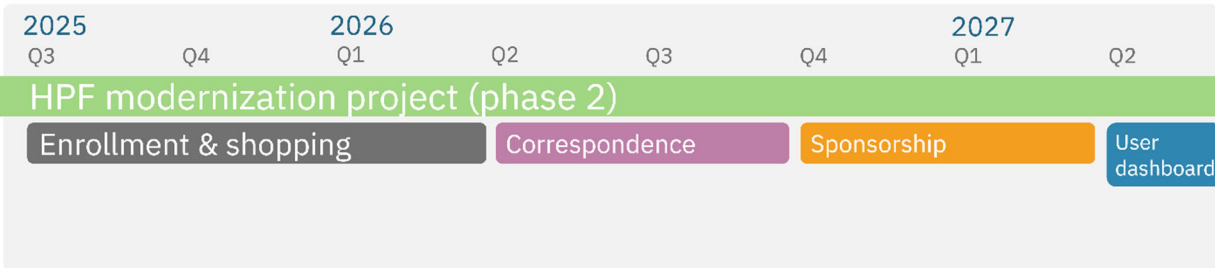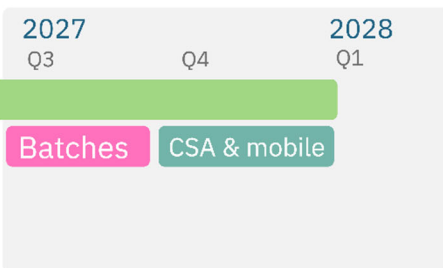
2021-23 Biennial Activity:
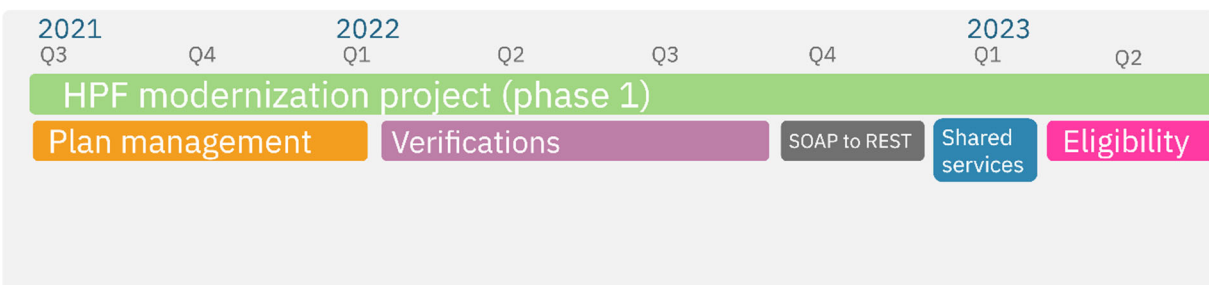
2023-25 Biennial Activity:

2025-27 Biennial Activity:

2027-29 Biennial Activity:

How is your proposal impacting equity in the state?

The goal of the Exchange is for all Washingtonians to have full and equal access to health coverage. Underlying disparities in health coverage for low-income residents and communities of color continue to be a major equity issue. It is more important than ever that new and returning customers have stable and responsive tools for enrolling in health coverage. This project will continue to reduce current limitations of HPF and will result in a more accessible platform for all Washingtonians regardless of when and how they apply for coverage.

What are you purchasing and how does it solve the problem?

We will utilize modern technologies and continually improve our system architecture as we rebuild HPF into smaller modules that align to business capabilities. Focus areas for the 2023-2027 biennium are noted below.

- **Database migration and data archiving:**
  The modules developed for the current biennium were rearchitected to leverage cloud native databases with increased flexibility, better data utilization, and improved security. The lessons learned from the current biennium led us to develop new standards, tooling, and utilities to migrate the data from Azure Government cloud to Azure Commercial cloud. This allows us to align our modules to them and will reduce future effort and rework.

- **Building DevSecOps Culture:**
  Establishing a DevSecOps culture provides Exchange with a new set of foundational capabilities that increase the speed of delivery, reduce risk and improve security. DevSecOps practices are adding value and reducing development costs by streamlining and automating our development, deployment, and operational processes.

- **Unified Authentication and Authorization Services**
  Currently, authentication and authorization is handled by HPF for all functions contained within. Modularizing applications spreads that responsibility across all services, so it is critical that each module is built with the same authentication and authorization mechanisms. With this effort the Exchange will create a unified authentication and authorization component that each module will use to ensure that the essential function of security is handled the same across all modules as well as administered from the same location.

  Modularizing applications requires delegating responsibility for authentication and authorization across all services. The Exchange will create a unified authentication and authorization component that each module will use, ensuring that security is handled consistently, and administration is centralized.

- **Logging, Auditing, Health Monitoring**
  The Exchange will move to a centralized monitoring system where application audit and error logs can be viewed in a single location to simplify and expedite application monitoring and incident responses. By moving to a central monitoring system, we will also simplify interfaces between security logging and incident response systems as well resulting in a faster time to remediation. Along with audit and error logs we will gather metrics across all systems, allowing us to view the effect of a system issue across the application ecosystem.

- **Robust architectural standards**
  Developing the patterns and standards that inform how HPF is modernized requires inputs from architects in the application, data, and infrastructure domains. We will continue to develop architectural standards and align our modules to them. Development teams and architects will continue to collaborate on approaches to build a robust platform for HPF.

- **Open Source**
  Accelerating the upgrade away from proprietary tools (middleware, Container Registry, Database Monitoring, etc.) to cloud native and open-source products will provide the Exchange with increased flexibility, reduced system complexity, and reduced costs over time.

- **Modularity and Containerization:**
Implementing microservices capabilities across the ecosystem allows a collection of small applications to work together. These services can be changed, updated, or replaced with minimal impacts to the rest of the application. This approach reduces time in testing, support, development, and minimizes risks to data.

- **Decoupling account worker systems from the customer facing portal:**
This allows for Backoffice solutions that support the operational needs for call centers, data analysis, customer issues, and cross agency support in an integrated fashion. This suite will also be built to be modular and containerized which then allows for adding functionality much faster and at a reduced cost whenever needed in response to a federal change or state need.

- **Cloud Native migration:**
By making our system components cloud native (platform as a service (PaaS) or software as a service (SaaS)), we will better utilize our staff, time, and funding. These changes will simplify our architecture and reduce the complexity of core processes and systems, such as code deployment, disaster recovery, and backups.

- **Transition support**
In addition to the modules which will be created, the Exchange will need to ensure the remaining HPF capabilities hosted in Microsoft Azure Gov (MAG) and on prem systems operate on supported technologies in a fully functional and stable way. In addition, the following activities will be needed, will require additional vendor support as well as dedicated staff resources:
    - Windows & Linux upgrade
    - JDK/Java & WebLogic upgrade
        - Upgrade Java with WebLogic
        - Move WebLogic to container based OpenShift implementation
        - Java upgrade and containerization will have same regressions
    - SOA upgrade
        - Migrate the existing services from SOA to Fuse
        - Fuse will be deployed in OpenShift to reduce Virtual Machines and ease the management of HPF
    - On prem and Microsoft Azure Commercial (MAC)

This modernization project will increase HPF's nimbleness and its ability to support new customers and changes to the system and programs. The system changes and move to new hosting platforms will enable the system to be more easily changed, tested, secured, and managed. The hosting platforms will be hosted and managed by the cloud providers and reduce the need to focus on efforts like patching and system migrations.

What alternatives did you explore and why was this option chosen?
Absent this modernization project, HPF risks becoming outdated. This could lead to increased costs to maintain and enhance the system, limited flexibility on expanding program offerings, and a

shortened lifespan for the system. By redesigning HPF with cloud native technologies, the Exchange is positioning HPF for the future and reducing the need for full system replacement costs.

Assumptions and Calculations
Expansion or alteration of a current program or service

This is for continued modernization of the HPF system.

Detailed assumptions and calculations

The Exchange requests funding of $8,128,000 in the 2023-25 Biennium, $7,724,000 in the 2025-27 biennium, and an ongoing $695,000 per fiscal year beginning in FY 2029 for staff resources needed to support the ongoing operations of Healthplanfinder.

The estimate provided reflects the costs associated with modernizing and modularizing HPF in additional to ongoing staff resources.
- No increase in Carrier Assessment is anticipated to fund this effort.
- No new General Fund-State dollars are requested.
- This expedited modernization is eligible for a combination of 75% and 90% federal match rate, as well as some activities that impact the QHP population only.

QHP Only

Objects of Expenditure:	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
A - Salaries And Wages	$ -	$ -	$ 181,000	$ 136,000	$ -	$ -
B - Employee Benefits	$ -	$ -	$ 59,000	$ 44,000	$ -	$ -
C - Personal Service Contracts	$ -	$ -	$ 734,000	$ 917,000	$ -	$ -
E - Goods And Services	$ -	$ -	$ 39,000	$ 30,000	$ 3,000	$ -
G - Travel	$ -	$ -	$ 2,000	$ 2,000	$ 2,000	$ -
Total	**$ -**	**$ -**	**$ 1,015,000**	**$ 1,129,000**	**$ 5,000**	**$ -**

75% FFP Activities

Objects of Expenditure:	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
A - Salaries And Wages	$ -	$ -	$ -	$ -	$ 226,000	$ 452,000
B - Employee Benefits	$ -	$ -	$ -	$ -	$ 74,000	$ 148,000
C - Personal Service Contracts	$ 1,028,000	$ 1,028,000	$ 1,028,000	$ 1,028,000	$ 189,000	$ -
E - Goods And Services	$ -	$ -	$ -	$ -	$ 48,000	$ 93,000
G - Travel	$ -	$ -	$ -	$ -	$ 2,000	$ 2,000
Total	**$ 1,028,000**	**$ 1,028,000**	**$ 1,028,000**	**$ 1,028,000**	**$ 539,000**	**$ 695,000**

90% FFP Activities

Objects of Expenditure:	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
A - Salaries And Wages	$ 452,000	$ 452,000	$ 271,000	$ 316,000	$ 226,000	$ -
B - Employee Benefits	$ 148,000	$ 148,000	$ 89,000	$ 103,000	$ 74,000	$ -
C - Personal Service Contracts	$ 2,623,000	$ 2,047,000	$ 1,401,000	$ 1,217,000	$ 1,067,000	$ -
E - Goods And Services	$ 105,000	$ 93,000	$ 57,000	$ 66,000	$ 48,000	$ -
G - Travel	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ -
Total	**$ 3,330,000**	**$ 2,742,000**	**$ 1,820,000**	**$ 1,704,000**	**$ 1,417,000**	**$ -**

Total Request

Objects of Expenditure:	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
A - Salaries And Wages	$ 452,000	$ 452,000	$ 452,000	$ 452,000	$ 452,000	$ 452,000
B - Employee Benefits	$ 148,000	$ 148,000	$ 148,000	$ 147,000	$ 148,000	$ 148,000
C - Personal Service Contracts	$ 3,651,000	$ 3,075,000	$ 3,163,000	$ 3,162,000	$ 1,256,000	$ -
E - Goods And Services	$ 105,000	$ 93,000	$ 96,000	$ 96,000	$ 99,000	$ 93,000
G - Travel	$ 2,000	$ 2,000	$ 4,000	$ 4,000	$ 6,000	$ 2,000
J - Capital Outlays	$ -	$ -	$ -	$ -	$ -	$ -
N - Grants, Benefits & Client Services	$ -	$ -	$ -	$ -	$ -	$ -
Other (specify) -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 4,358,000**	**$ 3,770,000**	**$ 3,863,000**	**$ 3,861,000**	**$ 1,961,000**	**$ 695,000**

In the 2021-23 biennium, the Exchange leveraged many existing in-kind resources. A key lesson learned from this phase is, absent dedicated resources on the platform team, there was not sufficient capacity to support end user technologies, particularly Modernization efforts, for network and system designs, engineering, and planning. In response, the Exchange is augmenting the team with Microsoft certified resources. They bring cloud, server, network and automation skills necessary to support ongoing activities and modernization.

It is also necessary to upgrade some of the technologies on which the remaining HPF footprint operates. In the 2021-23 biennium, the Exchange upgraded its database. The 2023-35 biennium will include upgrades to Java and SOA which are at risk of becoming unsupported. This allows the Exchange to extend the timeframe we have to continue to build new modules.

Costs include:
* **Tech Refresh:** Upgrade existing on prem and MAG technologies to remain on supported versions
* **Microsoft Certified Vendor to augment platform team and support modernization activities:** This was one of our lessons learned from the previous biennium when the Platform team struggled to keep up with the increased need for support across MAC, MAG and on Prem
* **HPF enhancement for modularity:** include HPF cloud native design, containerization design, build out, and implementation
* **System integrator cloud native migrations:** system integrator (SI) support for the HPF cloud native migration activities
* **System integrator for data modeling**: system integrator efforts for the database migration and data archival design and implementation

Workforce assumptions

The Exchange requests funding for four ongoing staff resources.

1 FTE- Software Quality Analyst
* Participating in Discovery sessions, Writing Scenarios/Test cases for user stories, Executing the test cases end to end, finding the bugs and retesting

1 FTE- Cloud Application and Solutions Architect

- Works with key business stakeholders and other enterprise architects (i.e., Business, Security, Data, Technology) to establish, plan and execute the as-is, to-be, and transition state architecture roadmap to correctly and successfully modernize HPF. This individual will have technical oversight and be responsible for communicating and ensuring modern architecture standards, processes, and practices are adopted and adhered to by the development team throughout the software development life cycle (SDLC).
- Post-implementation, this position is necessary to maintain and manage the ongoing HPF architecture roadmap. Ensure that the underlying application technology stack, application architecture & design, and technical processes are kept up to date based on modern industry best practices.   This position will be crucial to work with other key architects and stakeholders internal (and external) to HBE to ensure the application architecture standards are documented and updated based on new state and federal regulatory policies.

1 FTE - Technology Solutions Coordinator
- With distinct modules residing across Microsoft Azure Commercial, Microsoft Azure Gov and on prem, there is an increased level of complexity. This position will respond to production changes being requested across these three sources.

1 FTE- Network Engineer
- Deploys Cloud network architecture and engineering to include: design network topology and traffic flow for cloud-based systems based on micro-segmentation and zero trust models, creates secure network designs that meet or exceed regulatory and organizational needs, manage load balancing and other network virtual appliances, and setup, monitor, and create rules on web application firewalls (WAF) for internet facing applications.
- Post- implementation, the Network Engineer will be the subject matter expert for IT Network & Cloud Infrastructure; and responsible for system engineering and administration, network engineering and administration, asset management and other end user services duties as defined by leadership.

Strategic and Performance Outcomes
Strategic framework

This proposal directly relates to Results Washington's Healthy and Safe Communities goal. HPF has an impact on each of the outcome measures within that goal—starting with ensuring access to quality healthcare. HPF is a critical tool for Washingtonians to choose and apply for healthcare coverage, obtain eligibility for subsidies or tax premiums that make healthcare coverage more affordable, and enroll in plans that allow them access to care. Access to healthcare is more critical now than ever. Better access to healthcare leads to a healthier population which with furthers additional Results Washington goals.

The funding sought in this package will allow us to continue developing our technology to meet core goals outlined in the Exchange's Strategic Vision, including:
- Improving customer experience in enrolling for high quality health insurance and qualifying for free or reduced costs

- Leveraging the portal to support public programs and new individual market health insurance customers
- Generating new products to offer consumers and leveraging our technology and expertise to support state programs

Performance outcomes

By funding this request and accelerating HPF's modernization plans, the Exchange expects a more flexible, stable, and modern system, that better serves customers.

Other supporting materials
Copies of the APD have been previously provided to HCA, OFM, the House and Senate.

Other Collateral Connections
Intergovernmental
None

Legal or administrative mandates
None

Changes from current law
None

State workforce impacts
None

State facilities impacts
None

Puget Sound recovery
None

Other supporting materials
Copies of the APD have been provided to HCA, OFM, the House and Senate.

Stakeholder response
None

Information technology (IT)
ABS will pose the question below for *each* DP. If the answer is yes, you will be prompted to attach an IT addendum. (See Chapter 10 of the budget instructions for additional requirements.)

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

⊙ No

◉ Yes

Please download the IT-addendum and follow the directions on the bottom of the addendum to meet requirements for OCIO review. After completing the IT addendum, please upload the document to continue.