

State of Washington  
Decision Package

**FINAL**

**Agency:** 303 Department of Health  
**Decision Package Code/Title:** PH Public Health Issues Management System  
**Budget Period:** 2013-15  
**Budget Level:** PL-Performance Level

**Recommendation Summary Text:**

Providers and laboratories are required by Washington state law to report cases of infectious and communicable diseases to the public health system, which is currently received by two data systems that are not technologically current, fail to meet the users’ needs, and are at risk of being decommissioned if a replacement is not implemented within the next two years. These systems need to be replaced by a single reliable Public Health Issues Management System. Data collected and analyzed in a single system allows public health officials to respond rapidly to health emergencies like an outbreak of pandemic flu or hepatitis.

**Fiscal Detail**

001	General Fund State	0	2,147,000	2,147,000
<b>Total Cost</b>		<b>0</b>	<b>2,147,000</b>	<b>2,147,000</b>
<b>Staffing</b>		<b><u>FY 2014</u></b>	<b><u>FY 2015</u></b>	<b><u>Annual Avg</u></b>
<b>FTEs</b>			<b>7.5</b>	<b>3.8</b>

**Package Description:**

The Department of Health requests \$2,147,000 in general fund state monies in fiscal year 2015 to purchase a new commercial-off-the-shelf (COTS) system to replace the current Public Health Issue Management Systems which receive, manage and disseminate data related to public health outbreaks that require rapid response.

Providers and laboratories are required by Washington state law (WAC 246-101) to report cases of infectious and communicable diseases (notifiable conditions) to the public health system which is currently received by two systems, the Public Health Issue Management System (PHIMS) and Public Health Issue Management System for Sexually Transmitted Diseases (PHIMS-STD). Both of these systems have been built and maintained with federal funds. Federal program officers have communicated to the department that federal funding is no longer available for on-going maintenance for the systems and that replacement and sustainability of our infectious and communicable disease systems are entirely the state’s responsibility. After years of federal cuts, and subsequent loss of maintenance team positions, the systems are outdated, not technologically current, fail to meet the users’ needs, and are at risk of being decommissioned if a replacement is not implemented in the near term.

Improving our health care system requires simultaneous pursuit of three aims: improving the experience of care, improving the health of populations, and reducing per capita costs of health care. This approach is referred to as the “Triple Aim”. Public health plays a particularly important role in pursuit of the Triple Aim in terms of using data to describe the health of communities by: (1) collecting, connecting, compiling, and analyzing data to inform changes at both population-based and individual health levels and (2) performing community health assessments to identify health needs to develop health improvement plans. The Affordable Care Act, with its emphasis on the development of Health Information Technology, is creating expanded opportunities to collect

information about health status, health care delivery, and health care costs, and this data has the potential to make analysis of population health richer and more valuable for measuring progress towards Triple Aim goals.

Problems to be solved and opportunities to be taken advantage of include the following:

- The department relies on receiving the infectious/communicable diseases and chronic health conditions data from local health jurisdictions (LHJs). However, not all LHJs use PHIMS/PHIMS-STD to report and/or manage data for all conditions because the systems do not meet their business needs and resort to developing their own internal systems. Multiple reporting systems creates difficulties in maintaining and upgrading systems and information across all partners, resulting in increased staff time, cost and delay in real-time information.
- More health data exists in electronic formats, particularly since health care providers have been incentivized to put their health records into electronic formats through the Affordable Care Act. PHIMS/PHIMS-STD does not have the interfaces necessary to accept data in the form of electronic case reports or electronic laboratory reports. At this time, data needs to be manually entered into the systems or manipulated electronically, resulting in increased staff time, cost, and delay in real-time information.
- The systems are not easily adaptable to new diseases and takes significant resources and time, both internally and externally, to upgrade. This delay in real time information impacts the ability to capture new conditions in a timely manner preventing state and local public health from containing the disastrous effects of a new disease while it spreads.
- Public health could benefit tremendously by the department exchanging information with other Washington public health agencies (Health Care Authority, Department of Social and Health Services) that are currently developing health data repositories. Benefits would include the exchange of data for the purposes of reporting, tracking, and management of infectious/communicable diseases, in addition to obtaining new data that will allow for analysis of population level health that include social determinants of health and health care costs. PHIMS/PHIMS-STD does not have the capability of connecting to these systems.

A number of COTS systems have been developed to manage public health data and are being used by others across the country. One of several COTS systems could be acquired that would resolve many, if not all, of the problems listed above. Acquiring such a system would have the added advantage of allowing Washington to join and work together with other states using a similar COTS systems facing similar challenges and opportunities. The department will work in collaboration with local health jurisdictions to evaluate and choose the COTS system that best meets public health business needs across the public health system.

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### **Narrative Justification and Impact Statement:**

#### ***What specific performance outcomes does the agency expect?***

The agency expects to see improvements in the following measures:

*1. Decrease in the time elapsed from clinical identification of a case until reporting to the public health system achieved through:*

- Ability to accept electronic data (case reports, laboratory reports), resulting in elimination of the need to manually enter case information or extensively manipulate electronic data to enter into the system.
- Ability in the Health Information Exchange to recognize and capture cases of disease for transmission to the public health system.
- Electronic import of data originating in neighboring states/other jurisdictions.
- Ability to capture data faster and act quicker will result in reduction in spread of disease and faster linkage to care for people with disease.

*2. Increase in the amount of information public health will receive, resulting in more complete case reports as well as additional capacities to do better, more varied analysis which could include:*

- Better geographic analysis of disease.
- Impact of social determinants on disease acquisition and spread.
- Co-morbidities (for example, between physical health conditions and behavioral health issues).

Ability to do these types of analysis will contribute to understanding what work needs to be done to impact the health of populations, assure that individuals have access to quality care, and identify how to reduce health care costs.

*3. Efficiencies gained:*

- Consolidation of more than two systems into one (two at the state health department, multiple others at the local level) will reduce costs since maintenance and upgrades will not need to be done on multiple systems.
- This will eliminate the need for manual entry of data.

With improved systems that would allow for faster identification of diseases, cost savings would also be realized to the health care system by averting spread of disease and getting ill and exposed people to care more quickly.

### **Performance Measure Detail**

This decision package is specific to the 2012-2016 Department of Health performance measures under:

Goal 1: People in Washington are protected from acute communicable diseases and other health threats

Objective 1: Our surveillance systems support early detection and swift response.

Strategy 3: Modernize our integrated infectious disease data collection system

Performance Measure 1: Percent of new system built

Performance Measure 2: Percent of new system built and percent of local health using the new electronic data collection system.

***Is this DP essential to implement a strategy identified in the agency’s strategic plan?***

This DP is integral to the agency’s strategic plan. Under Goal #1, “People in Washington are protected from acute communicable diseases and other health threats,” there is an objective that states, “Our surveillance systems support early detection and swift response.” Under this objective, there are two strategies that are directly impacted by the outcome of this decision package. They are:

- Strategy 1: Enhance our surveillance systems with data available through the Health Information Exchange.
- Strategy 3: Modernize our integrated infectious disease data collection system.

With the current systems, we will not be able to achieve the first strategy in a meaningful way and in a reasonable time frame. The second strategy is the subject of this DP.

***Does this decision package provide essential support to one of the Governor’s priorities?***

Yes, this decision package links to Governor Inslee’s Goal 4: Healthy and Safe Communities.

***Does this decision package make key contributions to statewide results? Would it rate as a high priority in the Priorities of Government process?***

Yes, the ability of public health systems to capture health data from populations across the state in a timely way makes key contributions to statewide results. The return on investment of a modernized public health data system could be realized in a very short period of time, such as responding to an outbreak of a virulent infectious disease, or in the longer term, by getting people with chronic infectious diseases to care as soon as possible so they don’t develop the more severe (and expensive to treat) consequences of diseases.

The notifiable conditions information system acquired with this decision package would rank very high in the Priorities of Government process because it would have a positive impact on all four strategies that the state employs to improve the health of Washingtonians:

- 1) It would help ‘*Identify and mitigate risk factors*’ by providing timely data on diseases and the demographic and socioeconomic factors associated with disease;
- 2) It would ‘*Mitigate environmental hazards*’ by addressing exposure to communicable diseases, exposure to hazardous materials, such as lead, and it would include disease reporting for conditions associated with unsafe food and water;
- 3) It would help ‘*Provide access to appropriate health care*’ by decreasing the time it takes to identify diseases and link people to care; and
- 4) It would ‘*Increase healthy behaviors*’ by providing timely data associated with unhealthy sexual behavior.

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

Potentially, all of the stakeholders working on achieving the Triple Aim are stakeholders impacted by the ability of public health to do this work.

The information system replacement proposed in this decision package enables important connections with other information systems, both within the agency and externally. The new system will enable interoperability with electronic laboratory reporting, both through the currently implemented mechanisms as well as the upcoming Health Information Exchange, as well as some types of case reporting and additional information such as that contained in Washington's vaccine registry.

Over the past two years, health care facilities and providers have spent considerable time and resources developing their capacity to capture, store and transfer electronic medical records. The facilities and providers will soon expect the department to accept those data and minimize their burden associated with reporting diseases of public health concern. The system proposed in this package will enable the department to meet those expectations and reduce their workload associated with meeting their regulatory obligations.

### ***What alternatives were explored by the agency and why was this alternative chosen?***

The department studied the upgrade and consolidation of PHIMS from either of its two current systems in conjunction with exploring the feasibility of acquiring a commercial system. Three key considerations argued against adapting and upgrading current systems:

- Both PHIMS systems are old systems and would require virtually complete reprogramming to bring them up to levels of modern functionality.
- A redevelopment of existing systems to meet contemporary standards would require at least twice the time as identification, qualification, acquisition, and implementation of a new system when the risk of continuing the current PHIMS system is already high.
- Maintenance of a new, upgraded system would represent a greater strain on DOH resources than receiving the same maintenance through a commercial package. Internal development of a new system would carry the risk that one or more component would take much longer to create or perform less successfully than the verifiable performance of existing functions of commercial systems. Thus, the risk of internal development would be concentrated in the early phases of the project to an unacceptable degree.

Given these facts, the benefits of acquisition outweighed the benefits of redevelopment. Doing nothing also poses an unacceptable risk to the agency.

### ***What are the consequences of not funding this package?***

If this package is not funded, public health will continue to rely on using multiple problematic systems and will lose opportunities to take advantage of current and evolving health information streams.

Specific consequences of not funding this package include:

- The data systems that support public health will continue to be disjointed, creating increased costs for maintenance and upgrades of multiple systems. LHJs utilizing their own systems will need to continue to maintain them at a time of diminished resources.
- We will not be able to take advantage of data coming through the Health Information Exchange or being collected in data repositories by other health agencies.

- Federal agencies are awarding resources to states that are able to take advantage of data from the evolving health information environment. If Washington is unable to do so, we will not be competitive for funding.
- Healthcare facilities and providers will react unfavorably if they have to continue meeting their disease reporting regulatory obligations in time-consuming and costly ways that does not take advantage of their significant investments in new health information technology.

***What is the relationship, if any, to the state capital budget?***

None.

***What changes would be required to existing statutes, rules, or contracts, in order to implement the change?***

No changes required.

***Expenditure and revenue calculations and assumptions***

Revenue:

N/A

Expenditures:

There will be one-time costs in FY 2015 for 2.5 FTE ITS5 to plan, manage and execute the project and lead the preparation of the Request for Quotes and Qualifications (RFQQ) documentation and accompanying procurement tasks for the COTS system. Also to work with customers and stakeholders statewide to identify their business requirements, complete a comprehensive set of system requirement documents, develop product evaluation procedures, lead the evaluation and scoring of potential off-the-shelf products against system requirements, and ensure that the system is developed according to the business requirements. This position will also set up and configure system hardware, install the purchased software, modify software to meet business and IT requirements. There will be 0.1 FTE ITS6 to participate in project planning, provide for IT resource allocation, and lead communications and coordination across-divisions, the executive sponsor(s), and DOH senior management. There will be 0.1 FTE ITS4 to serve as a testing resource throughout the development phase. There will be 0.2 FTE Epidemiologist 3 to participate in project planning, requirements definition, formatting and migration of data. There will be 2.7 FTEs Epidemiologist 2 to participate in project planning, requirements definition, formatting and migration of data. Total salary and benefit costs in FY 2015 are \$447,415.

The COTS software product is estimated at a one-time cost of \$1,300,000, which includes the software, applicable modules, user licenses, support for data migrations, and enterprise-level software upgrades for the first year. The estimated costs were calculated from quotes obtained by three of the leading software vendors.

Additional equipment costs in FY 2015 include \$16,000 for two Microsoft SQL Server database software licenses and \$21,000 for two servers and related equipment. These expenses will be incurred every five years to maintain agency replacement schedules.

Total costs in FY 2015 will be 5.6 FTE and \$2,147,000.

In FY 2016, there will be one-time costs for 2.6 FTE ITS5 for deployment of the system, troubleshoot, test, and perform computer programming to correct system issues/bugs. There will be 0.1 FTE ITS4 to support the development of user training and support plans. There will be 0.1 FTE ITS3 to lead the development of user communication, training, and customer support plans including training materials, perform system account management activities, participate in user training, and provide phone and email technical support to users. There will be 0.1 FTE Epidemiologist 3 for testing. 1.1 FTE Epidemiologist 2 for testing, and support for the development of user communication, training, and customer support plans including training materials, and deployment of the system. Total salary and benefit costs in FY 2016 are \$326,476.

There will also be an ongoing maintenance contract for software maintenance and support estimated at \$241,000 per year beginning in FY 2016. This covers user license renewals and enterprise-level software patches or bugs fixed by the vendor. It does not cover enhancements or system modifications.

Total costs in FY 2016 will be 4.1 FTE and \$870,000

Starting in FY 2017, 1.1 FTE ITS5, 0.1 FTE Epidemiologist 2, and 0.1 FTE ITS 3 will be required to provide ongoing maintenance and support for the system. Staff will perform upgrades to hardware and software, apply routine software patches, database management, continue to troubleshoot, test, and perform computer programming to correct system issues/bugs, solicit requirements, program, test, and deploy software enhancements, and provide technical support for users. There will also be an ongoing maintenance contract for software maintenance and support estimated at \$241,000 per year. Ongoing cost total 1.3 FTE and \$473,000.

Maintenance of existing PHIMS needs to continue until the new COTS system is implemented. Existing PHIMS requires regular IT resources to be operational. After the new system is implemented, the old system will be decommissioned and all resources transferred to provide maintenance and support for the new system.

Currently 1.9 FTEs support the maintenance, operations, and enhancements for both systems with federal grants providing the current funding. This funding is supplied by the Public Health Emergency Preparedness and Response (PHEPR) grant within the department, although this award is becoming increasingly limited at the Federal level due to budget cuts. Since funding of this project falls lower on the priorities for the PHEPR, we anticipate funding being eliminated for this activity in the next two years.

In the future state we are seeking to transfer 1.3 FTEs to General Funds State funding. The 1.3 FTEs will provide the maintenance and operations for the systems. The remaining 0.6 FTE will temporarily remain on federal funding, phasing out the federal grant based financial support, we expect to gain efficiency by combining the two systems and therefore be able to transition the 1.9 FTE of support to 1.3 FTE of support once the COTS solution is completely implemented and the old systems decommissioned. The additional ongoing costs are to pay the vendor to maintain and support the software and annual licensing fees.

The table below shows our current cost versus ongoing costs:

Category	Estimated Current Costs	*Estimated Ongoing Costs	Difference
FTE	1.9	1.3	(0.60)
Salary/Benefits	196,382	132,772	(63,610)
Goods/Services	20,921	14,315	(6,606)
COTS Maintenance Contract	0	241,000	241,000
Total Direct	217,303	388,087	170,784
Indirect	47,372	84,603	37,231
<b>Total</b>	<b>264,675</b>	<b>472,690</b>	<b>208,015</b>

\*Does not include costs of \$37,000 for SQL Licenses and Servers and Hardware Replacement (5 year cycle)

In addition, estimated expenditures also include costs for salary, benefits, and related staff costs for 0.7 FTE Health Services Consultant 1 and 1.2 FTE Fiscal Analyst 2 in FY 2015; and 0.7 FTE and 1.3 FTE respectively in FY 2016. These ongoing administrative costs will decrease to 0.4 and 0.7 each year starting in FY 2017.

***Which costs and functions are one-time? Which are ongoing? What are the budget impacts in future biennia?***

Costs listed for FY 2015 and FY 2016 will be one-time.

Starting in FY 2017, ongoing maintenance costs will be 1.3 FTE and \$473,000 each year.

***For federal grants: Does this request require maintenance of effort or state match?***

N/A

***For all other funding: Does this request fulfill a federal grant's maintenance of effort or match requirement?***

Object Detail		<u>FY 2014</u>	<u>FY 2015</u>	<u>Total</u>
A	Salaries and Wages		534,000	534,000
B	Employee Benefits		166,000	166,000
C	Personal Service Contracts			
E	Goods and Services		83,000	83,000
G	Travel			
J	Capital Outlays		1,355,000	1,355,000
T	Intra-Agency Reimbursements		9,000	9,000
	<b>Total Objects</b>	<b>0</b>	<b>2,147,000</b>	<b>2,147,000</b>