

2017-19 Biennium Budget Decision Package

FINAL

Agency: 303 Department of Health

Decision Package Code/Title: IS Improve Immunization Data Quality

Budget Period: 2017-19

Budget Level: PL-Performance Level

Agency Recommendation Summary Text: The Department of Health requests funding to update the Washington Immunization Information System. These critical updates will expand system functionality, improve data quality, and support new interfaces for electronic data exchange.

Fiscal Summary: Decision package total dollar and FTE cost/savings by year, by fund, for 4 years. Additional fiscal details are required below.

Operating Expenditures*	FY 2018	FY 2019	FY 2020	FY 2021
Fund 001-1	0	336,000	329,000	329,000
Total Cost	0	336,000	329,000	329,000
Staffing	FY 2018	FY 2019	FY 2020	FY 2021
FTEs	0	1.3	1.3	1.3
Revenue	FY 2018	FY 2019	FY 2020	FY 2021
Fund	0	0	0	0
Object of Expenditure	FY 2018	FY 2019	FY 2020	FY 2021
A - Salaries and Wages	0	544,000	540,000	540,000
B - Employee Benefits	0	191,000	190,000	190,000
C - Personal Service Contracts	0	450,000	450,000	450,000
E - Goods and Services	0	75,000	76,000	76,000
G – Travel	0	0	0	0
J - Capital Outlays	0	21,000	0	0
N - Grants, Benefits & Client Svc	0	0	0	0
S-Inter-Agency Reimb	0	(961,000)	(943,000)	(943,000)
T- Intra-Agency Reimbursements	0	16,000	16,000	16,000

Package Description

The Washington Immunization Information System (WAIIS) connects healthcare providers, healthcare organizations, health plans, schools and patients by making immunization records easily available to authorized users. The system also supports the triple aim: improving patient care by providing a clinical decision making tool for providers to help them give the right vaccine at the right time; improving population

health by being able to provide data on immunization rates for data based decision making and identifying pockets of need; and saving money by preventing over-immunization.

The amount of WAIS data being exchanged with Healthcare Provider Electronic Health Record Systems (EHRs) has grown in recent years. Additional growth over the next several years is expected with support for new interface development from federal hi-tech funding. Increasing amounts of electronic data and growing stakeholder reliance on these interfaces for the data has stretched the department's limited capacity to maintain the high data quality of the system. Over 90% of the incoming immunization data are entered through an electronic interface and over 65% of the data are received by the WAIS within one business day of the vaccine administration. This near real-time movement of incoming data is a change from how data previously came in and creates new demands to ensure timely, accurate, and complete immunization data and demands for data availability for performance measurement and improvement.

The WAIS is over 20 years old and the automatic deduplication processes in the system are outdated; this impacts system data quality measures. One of those measures is the number of toddler age children in the system with two or more immunizations recorded in their file. This measure dropped from 97% to 83% from 2015 to 2016 because the outdated automatic deduplication processes do not merge records correctly. Adolescent records with two or more immunizations also dropped from 90% to 80% during that same time period. This means the system has more demographic records that are less complete, and possibly less accurate, because the outdated automatic deduplication processes do not merge records correctly and are not able to address common data quality errors from electronic submission of data.

Having high data quality enables our WAIS users to access a rich source of immunization information for coverage assessment. More complete and timely data also supports improved compliance with immunization requirements and reduces administrative burden on schools, parents and healthcare providers. Accurate data is a critical tool during a vaccine preventable disease outbreak to determine overall risk to communities in Washington and determine appropriate response.

Data from the WAIS are the basis of many quality improvement activities and performance measures and are used by internal and external stakeholders. The Department of Health uses WAIS data for internal program improvement, decision making, and response to disease outbreaks. It also reports performance measures out to Results Washington, the Washington Common Set Measures (Health Care Authority) and for the agency strategic plan. Additionally, Local Health Jurisdictions, Health Plans, Accountable Care Networks, Accountable Communities of Health, tribal clinics, healthcare provider organizations, and statewide initiatives such as the Healthiest Next Generation rely upon WAIS data for clinical decision support and to measure their own performance. Supporting data use requires technically skilled staff to pull and assess data sets to fulfill data requests and meet customer needs.

DOH requests funding to support two pieces of WAIS work: **A)** to update existing functions in our system to improve IIS data quality and data exchange and **B)** to provide staffing support for data quality and data exchange work to meet internal and external customer needs for IIS data for performance measurement and immunization rate assessment.

A. Data Quality:

The WAIS needs to contain complete, accurate, and timely data. The data is used to ensure:

- Parents have information to support and assist them in making health care decisions about their children;
- Providers have access to a repository of data to make immunization decisions;
- Public health has the information needed to protect the public from diseases that vaccines can prevent;

- Performance measurements and other assessment activities are available and accurate.

One of the primary data quality activities of the WAIS is patient deduplication, which is the process of resolving duplicate patient records within the WAIS. The process also prevents fragmented and duplicate records from entering the system as “new” patients and ensures that the correct patient record is queried and updated. Duplicate patient records, as well as incorrectly merged patient records, negatively affect the overall data quality and usefulness of the WAIS, as well as the accuracy of performance measures. There are considerable gains to be made by redesigning patient deduplication processes and reexamining patient deduplication best practices.

There are two scenarios that occur and continue to evade existing record consolidation logic. In the event records are undistinguishable or very similar, as is common with twins and those with identical or similar demographic data, bad merges occur. The other scenario is when a record is orphaned and is not consolidated with other reserve records. This frequently happens with data submitted from hospitals where infants are not yet named. As an example, a hospital may send the Hepatitis B dose for Baby Boy + Mother’s maiden Name, and the second record submitted will contain the infant’s legal name. The process to correct both of these issues is manual and very time consuming.

To improve data quality in the WAIS, the department proposes to work with our system vendor to:

- Rebuild the current deduplication processes into a standalone module to enable the processes to be upgraded and implemented separately from other WAIS upgrades
- Streamline, standardize, and improve the overall WAIS patient deduplication processes
- Improve patient matching algorithms to enable better patient query/response rates

There are also data quality issues that take place when provider organizations merge. This frequently occurs and requires DOH to merge facilities or organizations in the WAIS to manage records linked to a healthcare provider. This type of merge in the WAIS often creates a host of data quality issues.

The department additionally proposes to work with its system vendor to improve the usability and business flow of the organizational facility merge functionality. Addressing both the deduplication and facility merge issues in the WAIS will create solutions to these problems, reduce staff time involved in manually correcting problems, and result in higher data quality. Funding will also support continued development of new data exchanges between the IIS and provider electronic medical record systems through the state Health Information Exchange.

B. Staff support for data quality improvement for Performance Management

Staff support is needed to manage data exchange and data quality improvements and to monitor incoming data from healthcare providers to identify any data quality problems. This will allow the department to better support system users by meeting provider demand for data exchange, identifying specific data quality problems and providing technical assistance to resolve any issues.

This decision package supports key provisions of the agency’s strategic plan by improving WAIS data quality used for immunization performance assessment. Agency strategic goals supported include:

- Public Safety: Protect Washington from communicable disease (Vaccine Preventable Disease)
- Healthiest Next Generation: Increase immunization rates in children
- Healthy Living, Healthy Aging: Collect, analyze, use and publicly share data to appropriately address population health issues with a focus on health disparities
- Keep Getting Better: Better serve our customers by implementing continuous improvement and performance management systems across the agency

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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. Please include annual expenditures and FTEs by fund and activity (or provide working models or backup materials containing this information).

The WAIS work has historically been supported by federal grant funding:

- From 2010 - 2012, the department received \$1.2 million from the American Recovery and Reinvestment Act (ARRA). This funding was used to support interoperability work, such as: onboarding healthcare organizations and pharmacies; updating outdated interfaces to the current standards and tools, and; adding query functionality to existing interfaces to make the interfaces bidirectional.
- During 2012 - 2016 the department received Prevention Public Health Funds (PPHF) in the amount of \$2.5 million. The immunization dollars in the PPHF award will end September 29, 2017, creating a need to find alternative funding for this important continuing work. At the end of the grant period in 2016, the WAIS had 234 organizations representing over 1,700 practice sites with active WAIS interfaces.

Decision Package expenditure, FTE and revenue assumptions, calculations and details: Agencies must clearly articulate the workload or policy assumptions used in calculating expenditure and revenue changes proposed.

This appropriation request is for \$336,000 General Fund – State (GF-S) in FY19, \$329,000 GF-S in FYs 2020-2021, and \$228,000 GF-S annually thereafter to improve deduplication functionality in the WAIS and support staff for data quality maintenance. During FYs 2019-2021, this appropriation will be used to leverage over \$940,000/FY in Medicaid funding. This appropriation will be used to leverage \$893,000/FY of Medicaid funding in out years to maintain data quality and functionality on an ongoing basis. This funding will be used primarily for existing staff previously funded with Federal PPHF funds. DOH will also require 1.0 Health Services Consultant 2 to coordinate and support the improvements and ongoing functionality support described in this request. 0.3 FTE Fiscal Analyst 2 will be necessary to provide necessary fiscal and contract support.

In total, DOH has determined that this work will require 6.5 FTE at a cost \$820,000/FY and Data Quality Improvement contracts in the amount of \$450,000/FY in years 2019-2021 and \$300,000 ongoing.

Decision Package Justification and Impacts

What specific performance outcomes does the agency expect?

Describe and quantify the specific performance outcomes the agency expects as a result of this funding change. ([results Washington link](#))

This proposal is critical to tracking a measure in Goal 4: Healthy and Safe Communities:

- Results Washington: 1.2.Y.a: Increase the percent of children (19 to 35 months) receiving all recommended vaccinations from 56.1% in 2014 to 62% in 2018

Accurately assessing the agency performance on this measure is dependent on having clean data in the WAIS. While the activities included in this decision package are not aimed at increasing immunization rates, they will improve data quality so that assessment of the performance measure is more accurate.

Performance Measure detail:

With this proposal, the department expects to see improvements in:

- Increase in use of the WAIS.
- Increase in data quality of the WAIS.
- Increased internal and external confidence in Washington-specific immunization data.

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

In Washington, about 77% of people report having a personal healthcare provider. The department anticipates the most potential benefit to those individuals without a provider who are getting inconsistent care from many different places. Also, foster children, families who are homeless, in transitional housing and families who move their households frequently may also fall in this category. A more comprehensive WAIS offers increased quality of care by connecting people, their provider and a record of their healthcare together.

A well-maintained complete Immunization Information system improves quality of care (a social determinant of health) by ensuring more people are protected against diseases that vaccines can prevent by helping providers support patients. The department is also more accountable to all communities in an outbreak with more reliable data about who is at risk.

Higher data quality improves the accuracy of the data and measurement of immunization coverage rates. This allows the state and our partners to effectively identify pockets of underserved communities in need of vaccination and strategize evidenced based interventions to target. Users of higher quality data can make better informed decisions.

What are other important connections or impacts related to this proposal? Please complete the following table and provide detailed explanations or information below:

Impact(s) To:		Identify / Explanation
Regional/County impacts?	Yes	<p>Identify: Statewide users rely on the WAIS to assess immunization coverage to both measure/monitor rates and make data-driven decisions to improve vaccination rates.</p> <p>Users include local health jurisdictions, health plans, healthcare providers, schools, child care providers, universities, tribal clinics, among others.</p>
Other local gov't impacts?	Yes	<p>Identify: Improved data quality and assessment staff support means DOH can provide better data to local health jurisdictions and support for fulfilling data requests and meeting customer needs.</p>
Tribal gov't impacts?	Yes	<p>Identify: Higher data quality means DOH can provide better data to our tribal clinics for clinical decision support. Support</p>

		for our assessment work means DOH can provide better customer service to tribal governments and clinics making data requests to assess immunization coverage rates.
Other state agency impacts?	Yes	Identify: Improved data quality and assessment staff support means DOH will have more accurate data for public use and provide better customer service for internal agencies requesting data to meet performance metrics, including Health Care Authority.
Responds to specific task force, report, mandate or exec order?	No	Identify:
Does request contain a compensation change?	No	Identify:
Does request require a change to a collective bargaining agreement?	No	Identify:
Facility/workplace needs or impacts?	No	Identify:
Capital Budget Impacts?	No	Identify:
Is change required to existing statutes, rules or contracts?	No	Identify:
Is the request related to or a result of litigation?	No	Identify lawsuit (please consult with Attorney General's Office):
Is the request related to Puget Sound recovery?	No	If yes, see budget instructions Section 14.4 for additional instructions
Identify other important connections		

Please provide a detailed discussion of connections/impacts identified above.

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There are many individuals, partners, and organizations that use and rely on WAIS data to assess immunization coverage levels -- from an individual record assessment to population level assessments. **Local**

Health Jurisdictions use the WAIS data to measure county level immunization coverage rates, search the vaccination status of individuals involved in outbreaks, and identify areas or communities under vaccinated. Schools use the WAIS to assess student immunization records to assess compliance with school immunization requirements. DOH sends customized Kindergarten Immunization Report Card to principals of all schools with kindergartens and honor schools who have a kindergarten immunization rate of 95% or higher. In the event of school-located outbreaks, the WAIS can be used by schools and local health to assess student and staff immunization records (with appropriate permissions). Tribal clinics have interfaces between their electronic health record system (RPMS) and WAIS. Tribes have access to the WAIS to assess immunization coverage rates; using WAIS, tribes would capture client immunizations given in other clinic locations that provide immunization data to the state. Many health plans in the state use WAIS data to measure and meet immunization performance metrics to determine quality scores, rankings, and accreditation status. State Agencies and Immunization Partners: the department also sees growing demands for the use of WAIS data by state agencies using immunization performance metrics and by external partners involved in innovative research projects or ACA driven projects with immunization reporting requirements.

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

The Centers for Disease Control and Prevention (CDC) funding to support WAIS interoperability and related WAIS data quality work ended. No new CDC funding opportunities specific to WAIS are available or expected.

The department has been working with the Washington State Health Care Authority (HCA) to request funding via the Implementation Advanced Planning Document (IAPD) 90/10 funding. However the funding can only be used for new interface development and not to provide on-going maintenance for the system nor do necessary data quality monitoring on existing interfaces.

What are the consequences of not funding this request?

Without dedicated funding, our ability to improve data quality and support staffing to improve data quality, monitor existing interfaces for data quality and provide technical support to providers, will be limited and data quality challenges will continue to increase. This will impact the ability to use the system data for performance measurement and data driven decision making.

This impacts our ability to have complete and accurate data to use for quality improvement work, including Foundational Public Health Services, Healthier WA Common Core Measures, and Results Washington. It also impacts our ability to provide timely and high-quality data to our many partners including healthcare providers, Local Health Jurisdictions, Accountable Care Organizations, and health plans. Incomplete data in the system also impacts the roll out of the WAIS school module; complete data is needed for schools to be able to successfully use WAIS records to determine compliance with school immunization requirements.

Furthermore, without funding, the amount and quality of immunization data coming into the system will be negatively impacted. This will decrease the availability of data to be used at the state and local level for performance measurement, quality improvement initiatives, and outbreak response.

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

The department has had reductions to federal funds (Prevention & Public Health Funds) used to support WAIS, including data quality work. The department hopes to utilize federal Medicaid 50/50 match via our agreement with Health Care Authority to support this work and require state funding from this **request** to utilize the federal match. Medicaid IAPD funding will support new data exchange but not ongoing maintenance of interfaces.

Our WAIS continues to be an integral system in managing program functions, assessing immunization coverage, and providing information for decision making. With the growth in system functionalities and users, the department has increased needs to meet data processing demands, maintain system stability, and support customer needs.

Other supporting materials: Please attach or reference any other supporting materials or information that will help analysts and policymakers understand and prioritize your request.

Information technology: Does this Decision Package 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.)

2017-19 IT 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 <i>(insert rows as required)</i>	FY 2018	FY 2019	FY 2020	FY 2021
IIS Vendor Contract	\$0	\$450,000	\$450,000	\$450,000
Total Cost	\$0	\$150,000	\$150,000	\$150,000

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:

1. Does this decision package fund the development or acquisition of a new or enhanced software or hardware system or service? Yes No
2. Does this decision package fund the acquisition or enhancements of any agency data centers? (See [OCIO Policy 184](#) for definition.) Yes No
3. Does this decision package fund the continuation of a project that is, or will be, under OCIO oversight? (See [OCIO Policy 121](#).) Yes No

If you answered “yes” to *any* of these questions, you must complete a concept review with the OCIO before submitting your budget request. Refer to chapter 12.2 of the operating budget instructions for more information.