



Agency Recommendation Summary

The Department of Health requests funds for the Rapid Health Information Network (RHINO) program, which is statutorily responsible for collecting, analyzing, and distributing healthcare encounter data collected in near real-time from all non-federal emergency departments (ED) and over 800 clinics across the state. The funding request is to support epidemiologist and informatics staff needed to manage and analyze the data and a system enhancement to ensure broad access to healthcare encounter data to support DOH core priorities. As an all-hazards surveillance system, RHINO data can be used to monitor a wide variety of population health issues including suicide attempts, firearm injuries, opioid overdoses, infectious disease, heat, and wildfires. Stable funding for RHINO would ensure DOH capacity to support core public health services, provide situational awareness to policymakers during times of emergencies, and better address health inequities. Without stable funding, the RHINO program will be unable to meet these needs.

Fiscal Summary

Fiscal Summary <i>Dollars in Thousands</i>	Fiscal Years		Biennial	Fiscal Years		Biennial
	2024	2025	2023-25	2026	2027	2025-27
Staffing						
FTEs	7.8	16.8	12.3	16.8	16.8	16.8
Operating Expenditures						
Fund 001 - 1	\$1,530	\$3,065	\$4,595	\$3,065	\$3,065	\$6,130
Total Expenditures	\$1,530	\$3,065	\$4,595	\$3,065	\$3,065	\$6,130

Decision Package Description

The Rapid Health Information NetwOrk (RHINO) program is responsible for the real-time collection, maintenance, interpretation, and dissemination of health-related data to enable the early identification of the impact of protentional human, veterinary, or environmental health threats which require effective public health action. As an all-hazards, population-based surveillance system, healthcare encounter data can be used to monitor and assess a wide variety of public health challenges including non-communicable and communicable diseases, environmental health, interpersonal violence, and drug overdose events through examining clusters of symptoms (syndromes), trends over time, and active case finding. Local, state, federal, and international cooperation continually expands the list of use cases for this data.

In July 2017, Governor Jay Inslee signed RCW 43.70.057 into effect which requires the automated, electronic reporting of healthcare encounter data from all Washington State emergency departments. As of November 9, 2021, 100% of non-federal emergency departments (Figure 1) and over 800 outpatient clinics (including urgent, primary, and specialty care) across the state (Figure 2) submit data to RHINO. Preliminary data is received, at a minimum, within 24 hours of a healthcare visit taking place. Healthcare facilities report demographic information, patient identifiers, and clinical visit details (hereafter referred to as healthcare encounter data). The Washington State Department of Health (DOH) does not have any other data sources that cover the breadth of health events with the speed, coverage, and timeliness of RHINO data.

Figure 1. Number of emergency departments submitting data to RHINO over time.

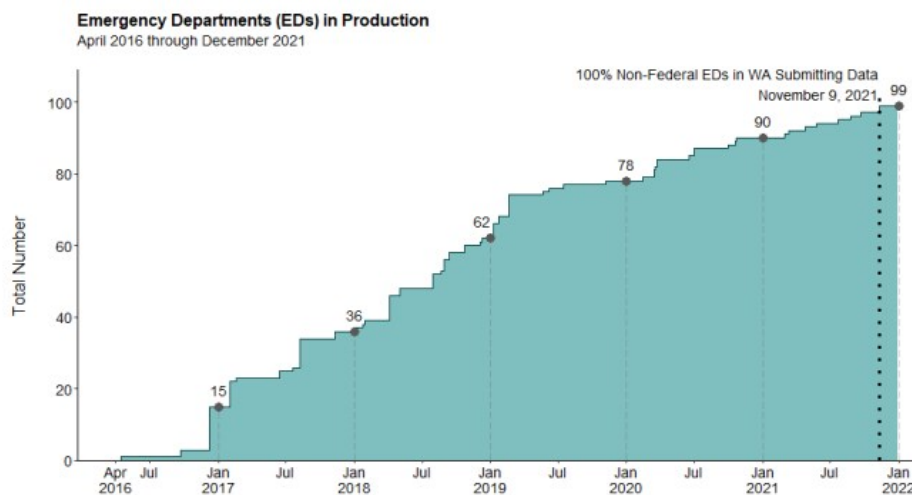
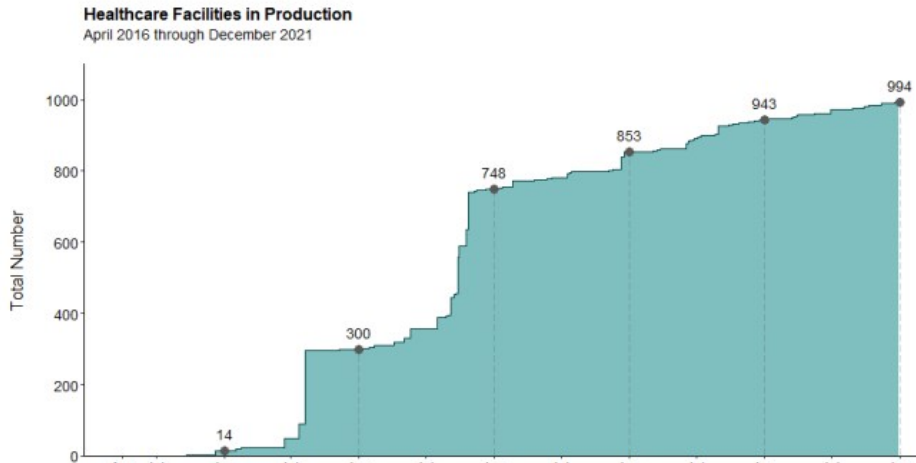


Figure 2. Number of all healthcare facilities (emergency care, primary care, urgent care, specialty care) submitting data to RHINO over time.

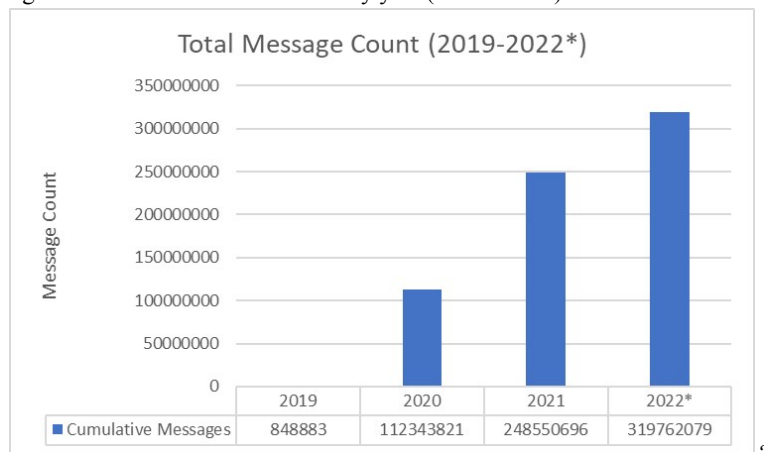
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The RHINO Program has been operational for over a decade and is currently funded exclusively through topic-specific grants, which leads to underutilization of both healthcare encounter data and the RHINO informatics platform [Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)] due to limited staff and system capacity supporting grant-specific topics. The underutilization means DOH, local, Tribal, and community partners do not have sufficient access to this data source and cannot leverage it to address core public health priorities or health inequities.

Over time the volume of data collected has risen exponentially due to increased onboarding efforts and improved coverage across Washington, introducing new challenges for data storage and processing that need to be addressed (Figure 3). Failure to enhance the underlying system will impact data availability and analytic capacity for all potential users.

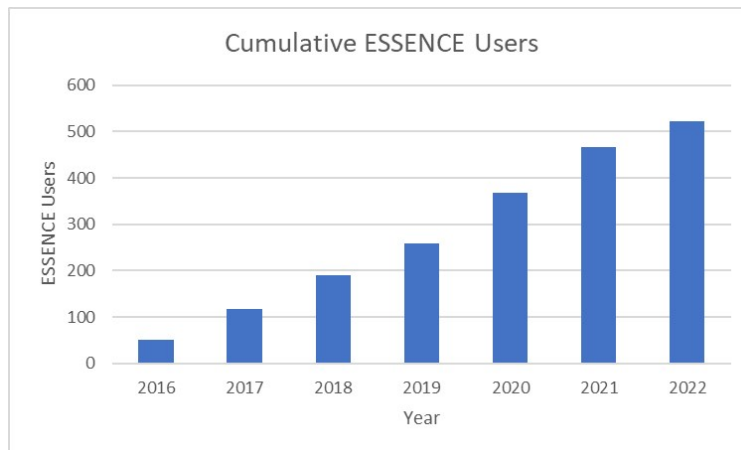
Figure 3. Total electronic messages with healthcare encounter data by year (2019-2022*).



*Data through 7/20/2022 14:00

The RHINO program is regularly requested to provide support in response to new and existing public health emergencies but is unable to do so sustainably with the current funding models. Additionally, the RHINO informatics infrastructure has the potential to support rapid and routine linking with many other data sources to support health equity and program evaluation across the Washington State public health landscape. ESSENCE readily enables data democratization through access permissions where local health jurisdictions (LHJs) and Tribal partners view only their data compared to statewide aggregate data, without disclosing data from other jurisdictions. The volume of ESSENCE users continues to increase yearly, demonstrating the desire for RHINO data among partner public health organizations (Figure 4). However, the current infrastructure is antiquated and prevents broader use and dissemination of existing datasets and products to priority public health partners (such as LHJs and Tribes), further impacting data democratization and Washington State’s ability to effectively utilize surveillance data.

Figure 4. ESSENCE users in Washington over time.



Lastly, the statutory requirement for DOH to collect and share ED data (RCW 43.70.057) requires dedicated funding to ensure the infrastructure for data collection and sharing is established and maintained. If this proposal is not approved, this mandated data requirement will be put at risk.

Though DOH divisions, tribes, LHJs, and submitting facilities can access RHINO data currently through the existing National Syndromic Surveillance Program (NSSP) cloud-based syndromic surveillance platform NSSP-ESSENCE, the platform does not include personal identifiers which limit case investigations and linking data between sources. Presently, RHINO receives identifiers from data submitters, but the identifiers are stripped when submitted to NSSP and current NSSP-ESSENCE users can only access identifiers through special requests to the RHINO team. Linkage requests that are large and/or recurring can take long periods of time (and in some cases must be done off business hours) and substantial IT capacity, impeding other operationally critical processes and hindering access. These extra steps also impede data democratization. Relying on this approach dramatically limits the use of RHINO data and hinders public health efforts across Washington, especially in emergencies.

A local instance of NSSP-ESSENCE, WA-ESSENCE, has already been implemented though is not currently receiving any data due to staffing and infrastructure limitations. Enhancing the current state of WA-ESSENCE to include a continued stream of near real-time data, incorporating additional data sources and data fields (including newly mandated fields in the midst of COVID-19), and updating the user interface is the best option as the infrastructure has already been established. In addition, WA-ESSENCE would provide a route to adapt data access for various LHJs, tribes, and organizations (such as hospital organizations that are submitting data, Washington State Labor and Industries, and the Washington State Hospital Administration). The user interface also provides customizable dashboards to display data from different sources in a single view with a plethora of stratifications.

The COVID-19 pandemic response clearly illustrated the need and utility for available, high-coverage, real-time data. RHINO was able to provide data in the beginning of the pandemic where no other data source could, including a data dashboard built for active case-finding and surveillance within a day of the index COVID-19 case identified in Washington State. This work was greatly utilized by partner public health agencies as reflected by the number of new users in 2020 (Figure 4) and requests to share the data dashboard. However, RHINO staff and infrastructure, as currently funded, cannot support another event like COVID-19 while still accounting for grant obligations and other hazards requiring surveillance. Funding RHINO staff through the legislature, rather than topic-specific grants, would enable greater use, scalability, and democratization of data in accordance with DOH priorities of engagement, equity, and innovation. The RHINO program would prioritize:

- 1) Training, supporting, and empowering partners (such as LHJs and Tribal health departments) to access and use the RHINO data, promoting broad data democratization throughout Washington public health
- 2) Building robust linkages between healthcare encounter surveillance data and other datasets to further support data democratization, innovation, and insight by updating an existing platform, WA-ESSENCE with new data sources and patient identifiers
- 3) Improving health inequity surveillance and understanding by continually prioritizing data quality and completeness (e.g., including expanding the primary and urgent care facilities that submit data, particularly in rural counties)
- 4) Emergency planning and response to ensure resources are available to support responses to public health emergencies and new or emerging health conditions without existing surveillance systems

What alternative did you explore and why is this option chosen?

Status Quo/Maintain Grant Funding: If the decision package is not funded, RHINO would need to continue applying and competing for ongoing grant funding. This alternative means unstable funding for the RHINO team that will result in limited capacity for public health surveillance at the state, as well as technical and logistical support for LHJs and tribes conducting their own surveillance. The local instance of WA-ESSENCE would remain unfunded and unusable.

Implement a cost-recovery model: RHINO could implement a cost-recovery system for programs that use the data or need RHINO support. Although this would address some of the funding, it would require a major new administrative process and implementation would put data democratization at risk. The local instance of WA-ESSENCE would remain unfunded and unusable.

Cloud-based environment to host data: DOH is developing a cloud-based analytic environment (i.e., CEDAR) as an alternative to address data access and democratization. The environment is currently only available to internal DOH staff for a small number of datasets. Based on current timelines, it will be a substantial time before the environment can be extended for use by LHJs and Tribes. WA-ESSENCE would address these

needs easily and provide a robust platform to expand on in the future.

Past and present RHINO funding has exclusively been through grants from federal sources which are prescriptive in their scope and cannot support the breadth of activities for which RHINO can be used to benefit Washingtonians. DOH's experience with this approach over the past 10 years has identified numerous barriers and limitations associated with continuing this strategy. Not funding this proposal will result in less support for near real-time surveillance efforts on new and existing conditions. The RHINO team will be unable to respond to all data requests and surveillance efforts (including active case finding and outbreak investigation) in a timely manner, reducing access to healthcare encounter data that may be used in response activities and public health research.

Assumptions and Calculations

Expansion, Reduction, Elimination or Alteration of a current program or service:

Workforce assumptions for the RHINO program include updates, maintenance, and operations for the local instance of WA-ESSENCE. This request reflects the expanded need and includes both business (RHINO) and IT staff. Costs reflect personnel salaries, standard benefits, goods and services, such as supplies and materials, communications, maintenance, etc., intra-agency reimbursement, standard equipment, and indirects (Agency, Division, and Pass Through). FTEs were determined in consultation with HTS and Section leadership to support needs to upgrade WA-ESSENCE and the increased reliance by LHJs, tribes, and agency programs on RHINO program data and staff.

Detailed Assumptions and Calculations:

Workforce assumptions for the RHINO program include updates, maintenance, and operations for the local instance of WA-ESSENCE. This request reflects the expanded need and includes both business (RHINO) and IT staff. Costs reflect personnel salaries, standard benefits, goods and services, such as supplies and materials, communications, maintenance, etc., intra-agency reimbursement, standard equipment, and indirects (Agency, Division, and Pass Through). FTEs were determined in consultation with HTS and Section leadership to support needs to upgrade WA-ESSENCE and the increased reliance by LHJs, tribes, and agency programs on RHINO program data and staff.

PAST AND CURRENT – Staffing profile (2019-21 to present)

Staffing profile is made of braided funding across topic area specific federal funds

- RHINO Program Manager: 1.0 FTE WMS 1
- RHINO Team Supervisor(s): 1.0 FTE Epidemiologist 3 Supervisor
- RHINO data analyst/data scientist: 1.0 FTE Epidemiologist 1
- RHINO Epidemiologist: 2.0 FTE Epidemiologists 2 and 3
- RHINO Health Service Consultant: 2.0 FTE Health Service Consultant 3

PROPOSED (preferred) – Staffing profile (2023-onward)

Staffing profile consists of existing staffing needs for consolidated funding opportunities

RHINO Team

- Program Manager: 1.0 FTE Senior Epidemiologist
- Unit Supervisor(s): 3.0 FTE Epidemiologist 3 Supervisor
- Data analyst/data scientist: 1.0 FTE
- Epidemiologist: 3.5 FTE Epidemiologists 2 and 3
- Health Service Consultant: 2.5 FTE

Information Technology

- IT Application Development (Senior/Specialist): 2.0 FTE
- IT QA (Journey): 1.0 FTE?
- IT Data Management (Journey): 0.8 FTE ?
- IT Project Management (Senior/Specialist): 1.0 FTE

Informatics

- Informatician/Epidemiologist 2: 1.8 FTE

Data Exchange

Enhancement of current IT/informatics infrastructure (WA-ESSENCE) to increase access and usability of data

Estimated expenditures include salary, benefit, and related costs to assist with administrative workload activities. These activities include policy and legislative relations; information technology; budget and accounting services; human resources; contracts; procurement, risk management, and facilities management.

Workforce Assumptions:

Workforce Assumptions FY24 Projections Only						
FTE	Job Classification	Salary	Benefits	Startup Costs	FTE Related Costs	
1.6	EPIDEMIOLOGIST 3 (NON-MEDICAL)	\$174,000.00	\$60,000.00	\$7,000.00	\$12,000.00	
0.5	EPIDEMIOLOGIST 2 (NON-MEDICAL)	\$44,000.00	\$16,000.00	\$2,000.00	\$3,000.00	
0.5	HEALTH SERVICES CONSULTANT 3	\$38,000.00	\$15,000.00	\$2,000.00	\$4,000.00	
2.0	IT APPLICATION DEVELOPMENT - SENIOR/SPECIALIST	\$232,000.00	\$79,000.00	\$8,000.00	\$15,000.00	
0.8	IT DATA MANAGEMENT - JOURNEY	\$79,000.00	\$28,000.00	\$3,000.00	\$6,000.00	
1.0	IT OUALITY ASSURANCE - JOURNEY	\$100,000.00	\$36,000.00	\$4,000.00	\$8,000.00	
0.5	NURSING CONSULTANT, PUBLIC HEALTH	\$53,000.00	\$19,000.00	\$2,000.00	\$4,000.00	
1.0	IT PROJECT MANAGEMENT - SENIOR/SPECIALIST	\$116,000.00	\$39,000.00	\$4,000.00	\$8,000.00	
7.8		\$836,000.00	\$292,000.00	\$32,000.00	\$60,000.00	

Estimated expenditures include salary, benefit, and related costs to assist with administrative workload activities. These activities include policy and legislative relations; information technology; budget and accounting services; human resources; contracts; procurement; risk management, and facilities management.

Strategic and Performance Outcomes

Strategic Framework:

This decision package robustly supports Governor Jay Inslee’s priorities for Washington as shared in the Results Washington goals by working to promote healthy and safe communities.

This package also supports the DOH’s current transformation plan HEALTH SYSTEMS AND WORKFORCE TRANSFORMATION All Washingtonians are well served by a health ecosystem that is robust and responsive, while promoting transparency, equity, and trust. Providing stable and expanded funding for the RHINO program and system allows DOH to turn outward and support LHJs and Tribes’ data sovereignty, access, utilization, and understanding through data democratization.

Performance Outcomes:

Dedicated and continued technology and staffing support for the RHINO program and WA-ESSENCE will improve system stability and capacity to adjust to rapidly evolving needs, data modernization initiatives and continued ability to meet statutory requirements. This would improve the RHINO capacity to investigate data anomalies, build out robust processes for continued monitoring of data processing routes, and maintain and identify opportunities for improving data quality.

In addition, this funding change will allow for innovative integration and linkage of new data sources to cultivate insights on existing and emerging public health concerns within a single system. This will improve data access and use among data sources and data users, empowering LHJs and Tribal Nations to work independently in a platform that provides multiple linked data sources, reducing the time and expertise needed to link independent data sources. The ability to incorporate multiple data sources when investigating a public health issue is invaluable and can provide increased understanding and more targeted and effective opportunities for public health intervention and prevention. This will also improve intra- and interagency collaboration and engagement.

Equity Impacts

Community outreach and engagement:

Improved data on social determinants of health applied to the expansive number of health issues captured in healthcare encounter data will be an invaluable asset. Public health partners can use the data and products to identify and engage with impacted communities, implement effective interventions, and evaluate program performance. Additionally, WA-ESSENCE has the capability to set up alerts for specific health concerns and populations so that jurisdictions can be notified of statistically significant increases in visits. This would allow jurisdictions to independently identify and respond more rapidly to burgeoning concerns in their community as well as create targeted interventions.

Beyond addressing health equity work, this proposal supports equitable access to data by shifting data back to the local health and tribal partners working with their communities and the facilities collecting the data. The WA-ESSENCE platform has built-in analysis tools so that jurisdictions can directly access their data and tailor basic analyses without third-party software. With greater capacity, RHINO can also continue to assist partners that do not have the technical capacity to conduct their own analyses or require more sophisticated methods. Increasing RHINO technology infrastructure will facilitate continued data democratization.

Disproportional Impact Considerations:

Without broadening access to this information health disparities across communities will go unaddressed.

Target Populations or Communities:

Disproportionately underserved and historically marginalized communities facing health inequities will benefit the most from this proposal.

Other Collateral Connections

Puget Sound Recovery:

N/A

State Workforce Impacts:

N/A

Intergovernmental:

All communities statewide who benefit from public health and seek healthcare are impacted by this proposal. This includes tribal, urban, and rural communities. The ability of the RHINO program to collect, analyze, and disseminate data allows all communities to better prepare for, address, and monitor emerging and existing public health issues. State agencies that are also impacted by public health will benefit such as: Office of Financial Management, Washington Traffic and Safety Commission, Department of Social and Health Services, Labor and Industries, Department of Health, and Department of Ecology.

Stakeholder Response:

We anticipate that Tribes and LHJs will support this proposal, as it will increase the visibility and usability of their data while ensuring confidentiality. We anticipate researchers, policy analysts, and other non-governmental groups interested in monitoring and evaluating public health issues to also be in support as increased RHINO staff capacity would allow better refinement and fulfillment of appropriate uses of healthcare encounter data, and more accurate linkages across data sources will allow for improved insight across disciplines. We anticipate that outside observers may view the inclusion of identifiers to the WA-ESSENCE platform as a risk. Identifiers are already required and collected by statute, and they will be restricted to only investigators with a need to link across datasets. Their inclusion is meant to leverage this existing information more effectively.

State Facilities Impacts:

N/A

Changes from Current Law:

No changes to RCW 43.70.057

Legal or Administrative Mandates:

N/A

Reference Documents

- [2023-25 Appendix5ITaddendum-HEALTHCARE DATA FOR ACTION.docx](#)
- [2023-25PrioritizationWorksheetIT_RHINO HEALTHCARE DATA FOR ACTION.xlsx](#)
- [FinancialCalculator_2023-25_ver24.0_HEALTHCARE DATA FOR ACTION.xlsm](#)

IT Addendum

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

Yes

Objects of Expenditure

Objects of Expenditure <i>Dollars in Thousands</i>	Fiscal Years		Biennial	Fiscal Years		Biennial
	2024	2025	2023-25	2026	2027	2025-27
Obj. A	\$1,016	\$2,057	\$3,073	\$2,057	\$2,057	\$4,114
Obj. B	\$379	\$780	\$1,159	\$780	\$780	\$1,560
Obj. E	\$50	\$101	\$151	\$101	\$101	\$202
Obj. J	\$26	\$0	\$26	\$0	\$0	\$0
Obj. T	\$59	\$127	\$186	\$127	\$127	\$254

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