# Iterative Project Report for Programs & Multi-Year Phased Projects

Submitted to Project Oversight on August 14, 2025

### GENERAL INFORMATION

**Program Name:** Public Health Systems Modernization

Agency Name: Health and Human Services, Public Health

**Program Sponsor: Ben Schram** 

**Project Sponsors:** 

• Vital Records Modernization – Darin Meschke

• Enable and Strengthen Data Governance - Ben Schram

• Electronic Disease Surveillance System Modernization – Lakin Mauch-Kath

Electronic Birth Record – Joyal Meyer

Program Manager: Kris Vollmer

Project Managers: Kris Vollmer, Linda Praus, Jason Mathurin

### PROGRAM DESCRIPTION

Public health depends on widespread and rapid access to data to drive decision-making, data is the foundation. The North Dakota Department of Health and Human Services (NDHHS), Public Health Division is the recipient of multiple grants, funding their Data Modernization Initiative.

Using technology this program will accelerate NDHHS Public Health division's implementation of data modernization efforts across the division's numerous public health information systems and programs. Data modernization efforts include but are not limited to modernization of core infrastructure/ecosystem; adaptation and alignment with ND Enterprise Solutions and ND Architecture Standards, developing a modern data platform, advancing interoperability, and enabling and strengthening data governance. Public Health Information Systems identified for data modernization as part of the program have been included in Table 4: Program Budget. Additional systems and projects may be identified during gap analysis. The data modernization initiative is broken into three focus areas. Each project is aligned with one of the following focus areas.

- 1. Modernize Public Health Ecosystem
- 2. Advance Interoperability
- 3. Enable and Strengthen Data Governance

### **BUSINESS NEEDS**

Business needs focus on both business and technology modernization; process improvement; mobility; aging technology as well as enhancing public health workforce capacity in order to accelerate data and public health information system modernization. The primary objectives across the focus areas are:

- Strengthen data reporting, management, and analytics across public health
- Conduct proper surveillance for all current and future public health threats
- Support the public health workforce in pursuing innovation and building state-of-the-art data science skills
- Deliver guidance that the citizens of North Dakota can trust

### PROGRAM/PROJECT FORMAT

Program/Project Start Date: January 1, 2021

**Budget Allocation at Time of Initial Start Date:** \$14,331,550

How Many Projects Expected at Time of Initial Start Date: 13 (currently 19 on roadmap)

**Project Approach Description:** The program will include numerous system projects, using hybrid or phased

implementations.

**Estimated End Date for All Projects Known at Time of Initial Start Date:** July 30, 2024 (current end date is estimated at July 30, 2026 based on expiration of grant funding).

### PROGRAM/PROJECT ROAD MAP

The program road map shows the high-level plan or vision for the program/projects/phases. It is intended to offer a picture of the lifespan of all the effort that is expected to be required to achieve the business objectives. Projects may run concurrently.

Project Number	Title	Scope Statement	Est Mo	Estimated Budget
PH-1	Data Modernization Initiative/Core Infrastructure	Overarching project to lead and coordinate DoH's data modernization efforts and implement workforce enhancements to support the acceleration of data modernization	60 mo	\$2,032,956
PH-2	Dynamics Maintenance and Enhancements	This project creates a new Dynamics 365 environment that will host both COVID-19 test registration/management and the contact tracing/case investigation surveys.	24 mo	\$2,615,890
PH-3	Maven Modernization	This project will upgrade the MAVEN system to current versions. It will also consolidate investigation and tracing processes into a single system to improve data quality, data stability and reporting. Shifting case investigation and tracing processes currently in Contact Tracing to MAVEN.	21 mo	\$552,054
PH-4	NDIIS Modernization	Create a more sustainable immunization information system by modernizing the NDIIS infrastructure (moving from on-prem to cloud based), improving user account provisioning and security features; and enhancing the user experience.	60 mo	\$5,647,025
PH-5	Electronic Case Reporting Scale-up	Accelerate the utilization of eCR for communicable and non-communicable diseases, utilizing the promotion of interoperability from health care EHR systems. NDDOH will develop bi-directional reporting back to providers through AIMS and RCKMS.	36 mo	\$396,972
PH-6	Electronic Vital Event Registration System (EVERS)	Modernization existing EVERS system, create an electronic connection to the Death Investigation System using FHIR-based interoperability	36 mo	\$1,776,009

Project Number	Title	Scope Statement	Est Mo	Estimated Budget
PH-7	Envoy_Death Investigation System 1.0	Procure a modern SAAS or off-the-shelf solution that is able to integrate with the Vital Statistics system. Implement an electronic solution to replace paper charts for storing and managing data related to official death investigations. Replace MS Access as tracking mechanism.	12 mo	\$41,100
PH-8	Hospital Preparedness Program Information System	Procure a modern SAAS or off-the-shelf solution for the purpose of improving the NDHHS' responsiveness and coordination of data & resources during catastrophic events, large-scale disasters, and emergencies. It will be a configurable solution for the tracking and management of patient locations & electronic health records (EHRs). The solution will also support available bed registry, vehicle inventory management, points of dispensing management, general population shelter management, volunteer management, mass notifications, and surveys.	12 mo	\$853,806
PH-9	StarLIMS 12.6 Upgrade	Enhancements and modifications to StarLIMS v12 (project that completed in April 2021)	10 mo	\$100,000
PH-10	Online Registration and Appointment System	Procure a single system (COTS or SAAS) for the purpose of accelerating the delivery and administration of public health tests or vaccinations. This new system will replace two existing systems that have very similar functionality.	12 mo	\$157,447
PH-11	Advance Interoperability	Promote data exchange across public health programs/systems to improve decision- making and protect public health data.	24 mo	\$492,566
PH-12	Enable and Strengthen Data Governance	Provide the necessary policies, procedures, and standards to improve data quality and ensure secure storage/access to essential Public Health data.	24 mo	\$350,547
PH-13	Funding Transition (HITECH to Medicaid) -OBC	Plan and develop Advanced Planning Documents (APDs) around the conditions and standards required for receipt of Medicaid enhanced funding for ND's public health systems to participate in and support the Center for Medicare and Medicaid Services (CMS) Promoting Interoperability Program as well as to support the ND Medicaid program. This project, which may include multiple APDs, aimed to support a continued funding stream for the NDIIS and other public health system.	18 mo	\$186,000
PH-14	Electronic Disease Surveillance System Modernization	Procure and implement a COTS (STATE or Vendor hosted) or Software as a Service solution to replace the current electronic disease surveillance system (EDSS) with an integrated electronic disease surveillance and outbreak management system that is interoperable with other health information systems, including Health Information Exchanges, Immunization Information Systems, and Vital Records Information Systems, as well as federal reporting standards including the National Notifiable Disease Surveillance System and the National Violent Death Reporting System.	24 mo	\$2,900,000

Project Number	Title	Scope Statement	Est Mo	Estimated Budget
PH-15	Trauma Registry	Procure and implement a modernized trauma registry solution. The new system will replace the outdated legacy registry, providing a robust, cloud-based platform to better serve NDHHS, healthcare providers, EMS, and citizens. The core function of the trauma registry is to maintain a comprehensive database of trauma incidents, enabling the identification and tracking of statewide trends to enhance trauma mitigation activities	12 mo	\$328,118
PH-16	Forensic Electronic Records (Death Investigation System 2.0)	This is moved as a phase of PH-14 EDSS.		
PH-17	Electronic Birth Record (+ Planning)	This is a phase under PH-11 Advance Interoperability and is dependent on PH-6. EVERs upgrade. The scope of this project is to replace the current manual, birth record match process in EVERS with an automated, interoperable process. Develop an interoperable process for electronic lab reporting (ELR) with the Iowa State Hygienic Lab	18 mo	\$242,000
PH-18	Public Health Modern Data Platform	This is moved to PH-12 Enable and Strengthen Data Governance.		
PH-19	Master Patient Index (MPI)	Placeholder	TBD	TBD

#### Notes:

The federal grant that funded the majority of projects was terminated on March 24, 2025. Projects without alternative funding were closed.

## PROJECT BASELINES

The baselines below are entered for only those projects or phases that have been planned. At the completion of a project or phase a new planning effort will occur to baseline the next project/phase and any known actual finish dates and costs for completed projects/phases will be recorded. The iterative report will be submitted again with the new information.

Project/ Phase	Project/ Phase Start Date	Baseline End Date	Baseline Budget	Funding Source	Actual Finish Date	Schedule Variance	Actual Cost	Cost Variance
PH-1								
DMI	6/1/2021	6/30/2026	\$2,089,608	Federal	5/09/2025	0%	\$1,728,121	17% under
PH-2 DAO	1/1/2021	12/30/202	\$2,746,000	Federal	6/30/2022	33% ahead	\$2,615,890	5% under
PH-3 Mav	6/10/2021	2/14/2023	\$440,420	Federal	8/3/2023	34% behind	\$552,054	84% over
PH-4 NDIIS	6/1/2021	6/30/2025	\$7,405,925	Federal	6/30/2025	0%	\$6,096,434	18% under
PH-5 eCR	7/1/2021	10/30/202	\$871,639	Federal	8/8/2023	37% ahead	\$396,972	54% under
PH-6 EVERS	7/1/2021	2/20/2025	\$1,776,009	Federal				
PH-7 DIS1.0	8/12/2021	5/31/2023	\$41,100	Federal	6/30/2023	2% behind	\$41,100	0%
PH-8 HPPIS	8/2/2023	8/22/2025	\$174,029	Federal	7/25/2025	0%	\$174,029	0%
PH-9 StarLIMS	9/13/2023	7/16/2024	\$72,000	Federal	8/5/2024	7% behind	\$47,258	33% under

Project/ Phase	Project/ Phase Start Date	Baseline End Date	Baseline Budget	Funding Source	Actual Finish Date	Schedule Variance	Actual Cost	Cost Variance
PH-10 ORAS	2/6/2023	8/13/2024	\$159,447	Federal	9/06/2024	3% behind	\$162,655	2% over
PH-11 Adv Int	12/1/2023	8/1/2025	\$237,642	Federal	3/24/2025	4% ahead	\$237,642	0%
PH-12 Data Gov	11/30/2023	7/28/2026	\$201,238	Federal				
PH-13 Fund Tran	9/13/2023	5/23/2025	\$186,000	Federal	5/23/2025	0%	\$81,938	56% under
PH-14 EDSS	1/23/2024	10/1/2026	\$2,321,195	Federal				
PH-15 DTR	1/31/2024	5/5/2025	\$148,874	Federal	5/23/2025	8% behind	\$133,416	4% under
PH-17 EBR	9/9/2024	6/30/2025	\$242,000	Federal				

## Notes:

There are currently four active projects. Two are major IT (EDSS and EVERS).

# **OBJECTIVES**

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
PH-1 Data Modernization Initiative/Core Infrastructure	Understand, coordinate and lead data modernization efforts in North Dakota.  Accelerate data and health information system modernization	At project completion have:  1. Identified a Data	Met	All objectives were completed.
PH-2 Dyn365 Disease & Outbreak System	Upgrade, migrate, and merge Contact Tracing and Test Registration to a single application to reduce maintenance, improve application ease of use, implement additional customer driven features, and lower cost of ownership	Design, develop, migrate, test, and release a merged platform from Contact Tracing and Test Registration application on the Microsoft Dyn365 platform per DoH requirements	Met	Successfully moved to a single platform.

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
PH-3 MAVEN Modernization	Improve data stability	Complete upgrade to MAVEN V6.2 in test and production environments	Met	Regular software updates are being made to Maven.
	Easier access to data/improve data sharing Improve and increase	Upgrade user security platform  Integrate with Dyn365 for survey management		Internal team has participated in training making HHS less reliant on Conduent.
	system/data auditing to improve system security to algin with State practices	,		
PH-4 NDIIS Modernization	Move to a cloud hosted environment  Modernize NDIIS infrastructure  Enhance the user interface experience	<ul> <li>At project completion:</li> <li>Enhance, modernize, or replace outdated legacy systems</li> <li>Automate manual processes</li> <li>Promote and adopt solutions that can easily</li> </ul>	Met	NDIIS was "live" in a hosted Azure environment.  NDIIS had been rewritten to allow program staff to have access to key workflows and processes.
	Streamline new user account setup/security practices to align with State EA Standards	scale up or scale down in response to an outbreak or emergency  Enable efficient data exchange and reporting across public health information systems.  Develop and implement API's/Microservices.  Improve data linkages across data sets.  Enhance/improve data exchange with external partners  Develop policies, procedures, standards that align with HHS and NDIT data strategies		UI was enhanced and new users were fully trained.  User account provisioning has been simplified and aligns with State EA standards and data strategies.

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
PH-5 eCR	Accelerate the utilization of eICR and RR in surveillance systems  Accelerate the onboarding of healthcare organizations to eCR using AIMS and RCKMS infrastructure for all reportable conditions	<ul> <li>eCR data will be integrated into the surveillance system for disease monitoring, case management and notification to the CDC</li> <li>Surveillance systems will be enhanced to enable the automated processing and use of electronic Initial Case Reports (eICR) and Reportability Responses (RR) documentation</li> <li>Conditions implemented by healthcare organizations will be expanded using AIMS and RCKSM and transition to eCR for all reportable conditions (expand beyond COVID-19)</li> <li>Supporting information will have been authored and enhanced for inclusion in the RR within Reportable Conditions Knowledge Management System (RCKMS) for delivery to healthcare providers.</li> </ul>	Met	We are assembling an internal eCR workgroup. They will monitor and continue to refine eCR messaging, content, work process.  HIS team is monitoring eCR feed for quality, completeness, and timeliness.  Additional CDC funding has allowed for sufficient staffing.  HIS is continuing to refine and add conditions to RCKMS in conjunction with the eCR workgroup.  Reportable conditions are published on HHS website. HAN will be issued when new reportable rules are defined.
PH-7 Envoy/Death Investigation System	Replace paper charts as mechanism for storing and managing the data collected through the official death investigation process.  Replace Microsoft Access as a tracking mechanism.	Implement a turnkey, state-of-the-art secure, electronic solution for documenting and storing death investigation case information.	Met	One month after implementation, HHS was notified by the vendor that they (ImageTrend) are sunsetting the application.  HHS is currently seeking alternative options.

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
PH-8 Hospital Preparedness Program Information System (HPPIS)	Replace multiple outdated, disconnected applications with a modern Single Application  Integrate and automate manual processes	At project completion: Implement a single SAS application for Bed Tracking, Volunteer Management, Staff Tracking, Vehicle Tracking, Equipment Tracking, Patient Tracking, and Surveys Implement solution that automates:  National Healthcare Safety Network (NHSN)Reporting Volunteer Tracking Volunteer Credentialing Triage & Patient Tracking data management Data sharing with Public Health & Medical Systems Ingests data from Public Health & Medical Systems Mobile ready Bed Availability Mass Communication Staff/Vehicle/Equipment Tracking Data Collection Surveys	Met	Upon implementation, business operations were simplified through the elimination of multiple software license structures and multiple user logins; and integration with ND.gov.  Tech debt was reduced by the sunsetting of old systems, including HCStandard & Everbridge and Sydion iCAM moving to a cloud hosted environment.  Interoperability with federal systems for inventory reporting is being implemented. SSO for state users is being implemented and
PH-9 StarLIMS	Upgrade of the existing Laboratory Information Management System (LIMS) from StarLIMS PH12.0 to PH12.6.	Enable the programmatic transmission of HL7 messages directly to the CDC and without the involvement of third-party data transformation applications.	Met	Post upgrade, programmatic transmission of HL7 results messages directly to CDC continues without any major incidents

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
PH-10 ORAS – Online Registration & Appointment System	Simplify registration and informed consent process for ND citizens  Create more seamless integrations with applicable NDHHS systems  Improve readiness in the event of another pandemic.	Deliver a multi-functional cloud solution that is integrated with NDIIS and Maven and can respond at scale to infectious disease outbreaks and can implement routine vaccination clinics.	Met	Retirement of legacy DAO (online test registration) system. Pending retirement of Prepmod (vaccine registration system).
PH-11 Advance Interoperability	CDC Message Mapping Guides  Electronic Case Reporting (eCR)  Database storage for HL7 messages  Refinement and optimization of existing HL7 routes	Implement GenV2 HL7 CDC message mapping and sending utilizing Association of Public Health Laboratories (APHL) established framework, including:  Outgoing GenV2 HL7 case notification messages  Outgoing Tuberculosis HL7 case notification messages  State Rhapsody HL7 Route to State  Add additional eCR routes and improve/refine existing eCR data elements and routes.  Model and store into the State database electronic lab reports (ELR), syndromic messages, and electronic case reporting (eCR).  Refine and optimize ELR routes, syndromic message routes, and eCR message routes.	Met	Objective was completed prior to project completion. HHS completed onboarding with EDX/CDC and was approved for GenV2 MMG production messaging in December 2024.  HL7 routes were refined and optimized prior to project completion.
PH-12 Enable and Strengthen Data Governance				

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
PH-13 Funding Transition (HITECH to Medicaid) - OBC	Establish a sustainable funding mechanism for Public Health systems in addition to federally funded grants.	By project closeout, draft and submit an Operational Advance Planning Document (OAPD) to CMS in order to support maintenance and operations funding for the NDIIS.  Receive approval for CMS funding/Medicaid match 90 days post OAPD submission	Met	An OAPD was successfully submitted to CMS by the State's Medicaid Director on June 6, 2025.  Approval of the OAPD was received from CMS on July 22, 2025.
PH-14 Electronic Disease Surveillance System Modernizaton				
PH-15 Trauma Registry	Replace the outdated CDM/ESO Trauma Registry System	<ul> <li>Procure and implement a modernized, cloud-based trauma registry system</li> <li>Improve access to data and reporting functionality</li> <li>Electronically exchange data with Trauma Centers and EMS repositories</li> </ul>	Met	<ul> <li>The new trauma registry was successfully implemented and went live on schedule (01/01/2025), there was no interruption in service.</li> <li>Local EMS repositories and trauma centers are directly connected to the solution.</li> <li>The solution now supports direct electronic data exchange with local EMS repositories and trauma centers, fulfilling a critical interoperability need.</li> </ul>

### KEY LESSONS LEARNED AND SUCCESS STORIES

A lessons learned effort is performed after each project or phase is completed. This process uses surveys and meetings to determine what happened in the project/phase and identifies actions for improvement going forward. Typical findings include, "What did we do well?" and "What didn't go well and how can we fix it the next time?"

Project/ Phase	Key Lessons Learned and Success Stories
PH-1 Data Modernization – Core	This project helped to coordinate resources and project management of multiple projects, and to set the roadmap for our Data Modernization Activities.
Infrastructure	The "core" team took on additional responsibilities and learned a lot about systems that they weren't familiar with. They successfully worked across business units to reduce tech debt and implement system enhancements Together they overcame frustrations and built lasting relationships.
PH-3 Maven Mod	Set hard deadlines/timelines with Conduent. Hold firm to their commitment to meet agreed upon deadlines.
PH-4 – NDIIS Modernization	The lead up to go live date showed the dedication of Nexus team to the vision of a nearly flawless launch. The work ethic of the NDIIS team during those first few weeks of the new NDIIS to be there for the users was amazing to witness. Overall, the entire project would not have been this well done without Mary W. being the point person for the NDIIS.
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	From: Henderson, Renae A. < <u>rahenderson@nd.gov</u> > Sent: Wednesday, July 30, 2025 4:37 PM To: Woinarowicz, Mary A. < <u>mary.woinarowicz@nd.gov</u> > Subject: NDIIS updates
	Just wanted to reach out and say thank you for all the updates and work in progress for NDIIS that has been done the last several months.  After getting used to it and getting the flow, I have really enjoyed the upgrade. The inventory report/changes, the reconciliation, the coverage rate tab and ability to run reminder recall from there, has all been VERY useful. There is so much I can not even address it all, very useful and makes my job so much easier!
	I'm sure sometimes you only hear the negatives, so just wanted to reach out and say THANK YOU! And job WELL DONE!!
	Renae Henderson, RN/BSN  Director of Nursing  114 3rd St. NE  PO Box 726  Rolla, ND 58367  701-477-5646
	Public Health

Project/ Phase	Key Lessons Learned and Success Stories
PH-5 eCR	We accelerated implementation through upscaling training (including training for Rhapsody).
	Learned that we should have had an Epi involved in the authoring process/trigger criteria. As part of ongoing support, we're finding that there is rework that will need to be done.
	Despite having to do some rework on the authored conditions side, we were able to author all conditions during the timeframe identified by the CDC.
PH-8 Hospital Preparedness	Feedback from the users of the system has been great. Stakeholders have shown a much greater interest in using the system due to its ease of use and the ability for facilities to see statewide events.
Program Information System (HPPIS)	The product exceeds our expectations and will continue to expand as we find more uses of the program.
PH-11 Advance Interoperability	Re-factoring of the routes made them much more maintainable and manageable, in addition we're now able to meet a main CDC objective by delivering GenV2 data.
	One of the deliverables involved completing work in Rhapsody to support onboarding the GenV2 MMGs for sending messages from ND to the CDC. The contractor successfully completed all necessary work in Rhapsody with minimal supervision and within the requested timeframe. As a result, ND was able to go live in December 2024 with routine case notifications via the GenV2 MMG route, allowing for daily case notifications for over 60 conditions.
PH-13-Funding Transition (HITECH to	This was definitely a learning experience that will support the organization moving forward with opportunities for additional funding.
Medicaid)-OBC	Solid example of an APD that can be used for other public health systems.
PH-15 Trauma Registry	Communication of desired goals for the desired data dictionaries is vital to timely implementation of the registry.
	We were able to quicky stand up and make the trauma registry operable for North Dakota's Trauma Care Facilities.
	Hospital-based users are actively importing historical data into and creating new patient records within the state trauma registry.

## KEY CONSTRAINTS AND/OR RISKS

Risk	Impact	Response
Funding Constraints	Several different funding sources are contributing to this program. Failure to complete work and pay for service prior to the end of funding will result in the loss of funds.	We will mitigate this risk by breaking the program into projects and projects into milestones and being invoiced accordingly to avoid loss of funds.
Resource Constraints	Negative schedule variance, inability to complete projects	This is a significant initiative; staff efforts may need to be reprioritized. Technical resources may need to be procured.
Technology Constraints	Negative schedule variance, inability to complete projects	Technology platforms, tools, system may need to be procured.
Timeline Constraints	The program is funded 100% by federal grants. Each grant has timelines for specific activities as well as timelines for completion. Failure to complete task and projects by the end of funding may result in the loss of funds.	We will mitigate this risk by breaking the program into projects. Each project will have its own milestones. Timelines for grant reporting will be clearly identified as milestones.