Iterative Project Report for Programs & Multi-Year Phased Projects
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GENERAL INFORMATION

Program Name: Public Health Systems Modernization

Agency Name: Health and Human Services, Public Health

Project Sponsors:

- Data Modernization – Michelle Dethloff
- NDIIS Modernization – Molly Howell
- Vital Records Modernization – Darin Meschke
- Hospital Preparedness Program Information System – Juli Sickler
- StarLIMS Upgrade – Heather Sease

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Project Managers: Kris Vollmer (Primary), Linda Praus, Jason Mathurin, Craig Hovet

PROGRAM DESCRIPTION

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

The intent of this program is to accelerate the Department of Health and Human Services Public Health Division's implementation of data modernization efforts across numerous public health information systems. Data modernization efforts include but are not limited to core data modernization infrastructure; adaptation and alignment with ND Enterprise Solutions, when applicable; implementation of electronic case reporting (eCR); and modernization of National Vital Statistics System. Public Health information systems identified for data modernization as part of the program have been included in the project list. Additional systems may be identified during gap analysis.

The data modernization initiative is broken into four focus areas. Each of the various projects has been aligned with one of the following four focus areas.

- Core Health Information Systems & Data Modernization Infrastructure
- Electronic Case Reporting (eCR) Scale Up
- National Vital Statistics System (NVSS) Modernization
- 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 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

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, 2025

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/ Phase	Title	Scope Statement	Estimated Months Duration	Estimated Budget
Project 1 Tier 1	Data Modernization Initiative (DMI)	Overarching project to lead and coordinate DoH's data modernization efforts and implement workforce enhancements to support the acceleration of data modernization	36 months	$2,032,956
Project 2 Tier 1	Dyn365 Disease & Outbreak System (DaO)	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 months	$3,001,660
Project 3 Tier 1	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 months	$300,000
Project 4 Tier 1	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.	37 months	$3,297,890
Tier 1	COVID Data Lake	TBD	TBD	$888,708
Project 8 Tier 1	Hospital Preparedness Program Information System (HPPIS)	Upgrade and/or replace the existing HealthCare Standard system.	12 months	$1,000,000

Project/ Phase	Title	Scope Statement	Estimated Months Duration	Estimated Budget
Tier 1	Electronic Lab Reporting	TBD	TBD	$75,000
Project 9 Tier 1	Lab StarLIMS v12	Enhancements and modifications to StarLIMS v12 (project that completed in April 2021)	6 months	$100,000
Tier 1	Laboratory Web Portal (Iconnect)	TBD	TBD	$438,000
Tier 1	Lab E-connectivity Enhancements - LIMS	TBD	TBD	$50,000
Project 5 Tier 2	Electronic Case Reporting Scale-Up (eCR)	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 months	$871,639
Project 6 Tier 3	Vital Statistics System Modernization (EVERS)	Modernization existing EVERS system, create an electronic connection to the Death Investigation System using FHIR-based interoperability	36 months	$1,535,760
Project 7 Tier 3	Medicolegal Death Investigation System (Envoy)	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 months	$41,100
Project 10 Tier 1	Online Registration & 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 months	$350,000
Project 11 Tier 1	Advance Interoperability	Promote data exchange across public health programs/systems to improve decision-making and protect public health data.	24 months	
Project 12 Tier 1	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 months	
Tier 1	Trauma Registry Replacement		TBD	

Project/ Phase	Title	Scope Statement	Estimated Months Duration	Estimated Budget
Tier 1	Emergency Medical Services Data System – Electronic Patient Care Record (ePCR)		TBD	

Notes:
Additional systems continue to be identified during gap analysis.

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
DaO	01/01/2021	12/30/2022	$2,746,000	Federal	6/30/2022	33% ahead	$2,61588.75	5% under
MAVEN Mod	6/10/2021	02/14/2023	$300,000	Federal	8/03/2023	34% over	$552,053.90	84% over
NDIIS Mod	06/01/2021	06/30/2024	$5,647,025	Federal				
DMI/ Phase 1	06/01/2021	06/30/2024	$4,094,406	Federal				
Vital Records /EVERS	7/1/2021	7/17/2024	$1,535,760	Federal				
eCR	7/1/2021	10/30/2024	$871,639	Federal	8/08/2023	37% ahead	$396,971.25	54% under
Envoy (DIS)	8/12/2021	5/31/23	$41,100	Federal	6/30/2023	2% behind	$41,100.00	0%
Online Reg & Appt System	2/6/2023	TBD	TBD	Federal				
StarLIMS	9/13/2023	3/31/2024	$50,000	Federal				

Project/ Phase	Project/ Phase Start Date	Baseline End Date	Baseline Budget	Funding Source	Actual Finish Date	Schedule Variance	Actual Cost	Cost Variance
HPPIS	8/2/2023	TBD	TBD	Federal				
Trauma Registry	TBD	TBD	TBD	Federal				

Notes:

OBJECTIVES

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
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
MAVEN Modernization	Improve data quality Improve data stability Reduce duplicative work More efficient use of staff time Easier access to data/improve data sharing Improve and increase system/data auditing to improve system security to algin with State practices	Complete upgrade to MAVEN V6.2 in test and production environments Modernization subsystems - Vaccine Breakthrough - Mortality - Case Manager - HAI - Hospitalization - Childcare, school, camp - Contact Tracing - Case Closing - Travel - Workplace Upgrade user security platform Integrate with Dyn365 for survey management Design, develop and release data integration with the DOH Data Lake, Datawarehouse and PowerBI	Met	Regular software updates are being made to Maven. Internal team has participated in training making HHS less reliant on Conduent.

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
eCR	Ensure that eICRs from AIMS are delivered to the public health agency and received by epidemiologist at the state/local public health agencies Accelerate the utilization of eICR and RR in surveillance systems Build public health workforce capacity for electronic case reporting Accelerate the onboarding of healthcare organizations to eCR using AIMS and RCKMS infrastructure for all reportable conditions Communicate with healthcare organizations regarding eCR	At project completion: • eCR data will be integrated into the surveillance system for disease monitoring, case management and notification to the CDC • Surveillance systems will be enhanced to enable the automated processing and use of electronic Initial Case Reports (eICR) and Reportability Responses (RR) documentation • An eCR lead and eCR coordinator have been identified • An eCR staffing plan has been developed • Develop an eCR onboarding strategy. • Conditions implemented by healthcare organizations will be expanded using AIMS and RCKSM and transition to eCR for all reportable conditions (expand beyond COVID-19) • Communications with healthcare organizations will have been implemented to ensure awareness and compliance with case reporting for COVID-19 and other conditions • 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.	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. Special communications to providers will be shared via HIN provider calls and newsletter as needed. Communications also included in annual attestation letters.

Project/ Phase	Business Objective	Measurement Description	Met/ Not Met	Measurement Outcome
Envoy/dis	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.
NDIIS Modernization	Move to a cloud hosted environment Modernize NDIIS infrastructure Enhance the user interface experience Streamline new user account setup/security practices to align with State	Implementation of a rearchitected NDIIS using cloud-based infrastructure and features including utilization of the State's Azure B2C for user management		

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
Maven Mod	Set hard deadlines/timelines with Conduent. Hold firm to their commitment to meet agreed upon deadlines.
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.

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.