NORTH Dakota | Information Technology

Be Legendary.™

House Appropriations Government Operations Division

January 18, 2023

Brynhild Haugland Room

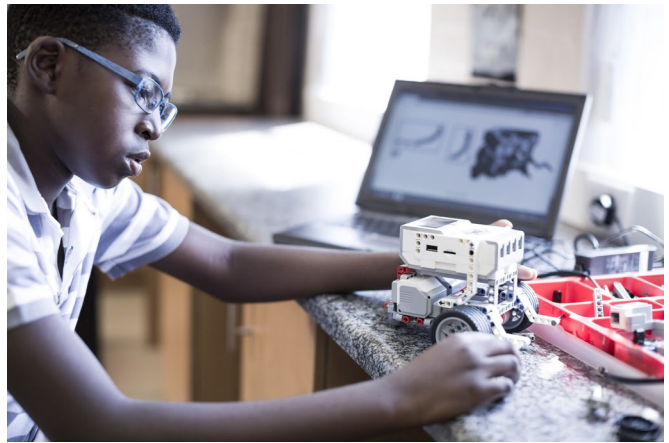
EMPOWER PEOPLE – IMPROVE LIVES – INSPIRE SUCCESS

TODAY'S AGENDA

- Enterprise Digitization
- Security Expert/Wiring
- Classlink
- Health Information Network

ENTERPRISE DIGITIZATION

NDIT 2023-2025 Enterprise Digitization					
Program - NDIT Operations	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	5.0	$ 3,245,000	$ 1,096,138	$ -	$ 4,341,138
One-Time Funding		-	950,000	-	950,000
One-Time Funding (SIIF)		$ -	$ 24,250,000	$ -	$ 24,250,000
Total Executive Budget	5.0	3,245,000	26,296,138	-	29,541,138

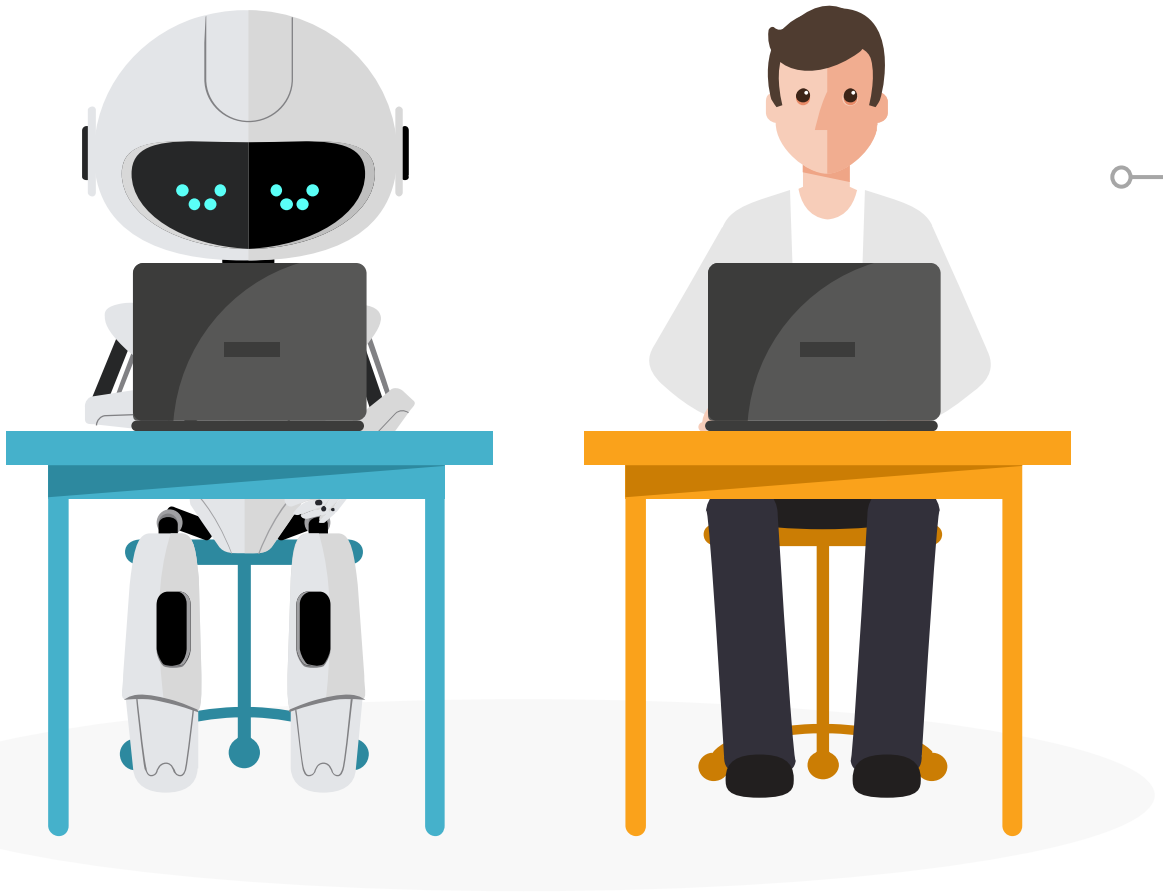


ENTERPRISE DIGITIZATION

- Intelligent and Modern Tools

MODERN TOOLSETS

- Lower Human Cost
- Modern Capabilities
  - Cloud Computing
  - Better Reporting
  - Simplify State Interaction through Modern Form Solutions
- More Secure
- Mapping Integrations with GIS

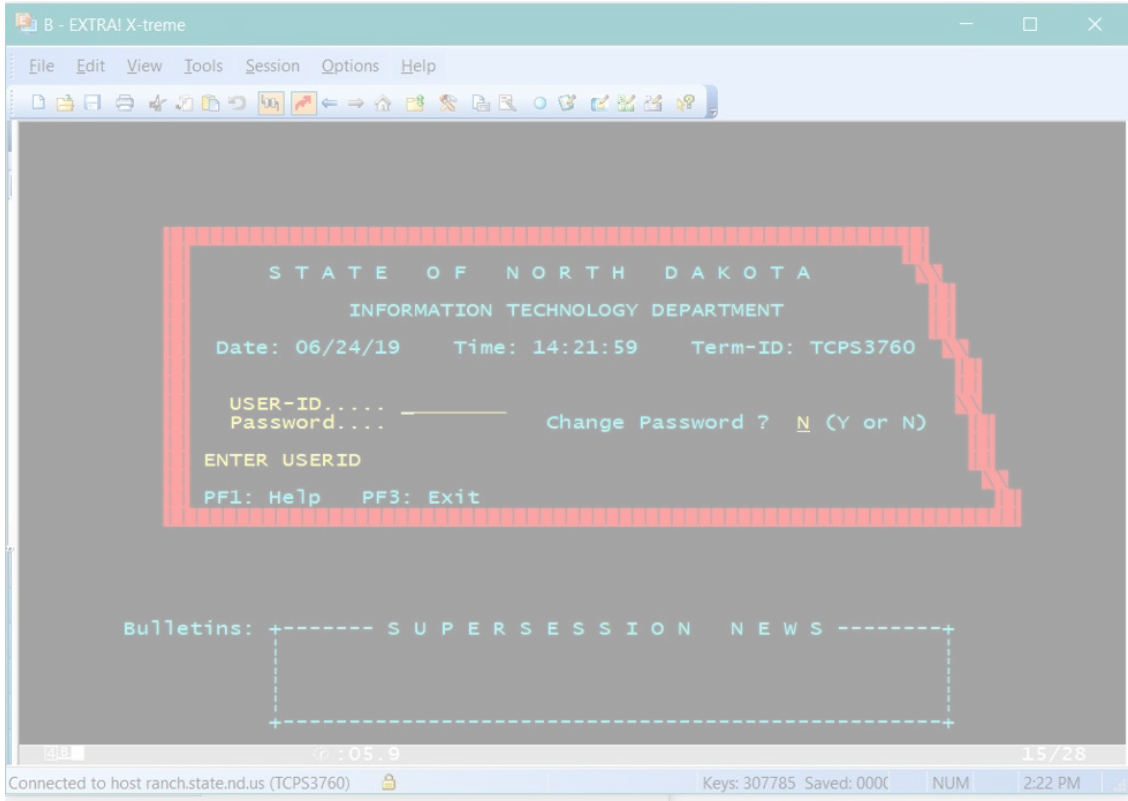


TRADITIONAL SYSTEMS

- Traditional capabilities have served us well for 15 years, but we need to modernize to meet the needs of all stakeholders
- Mainframe
- Traditional Infrastructure
- Legacy Coding Languages
- Paper forms that have to be digitized manually or through expensive software

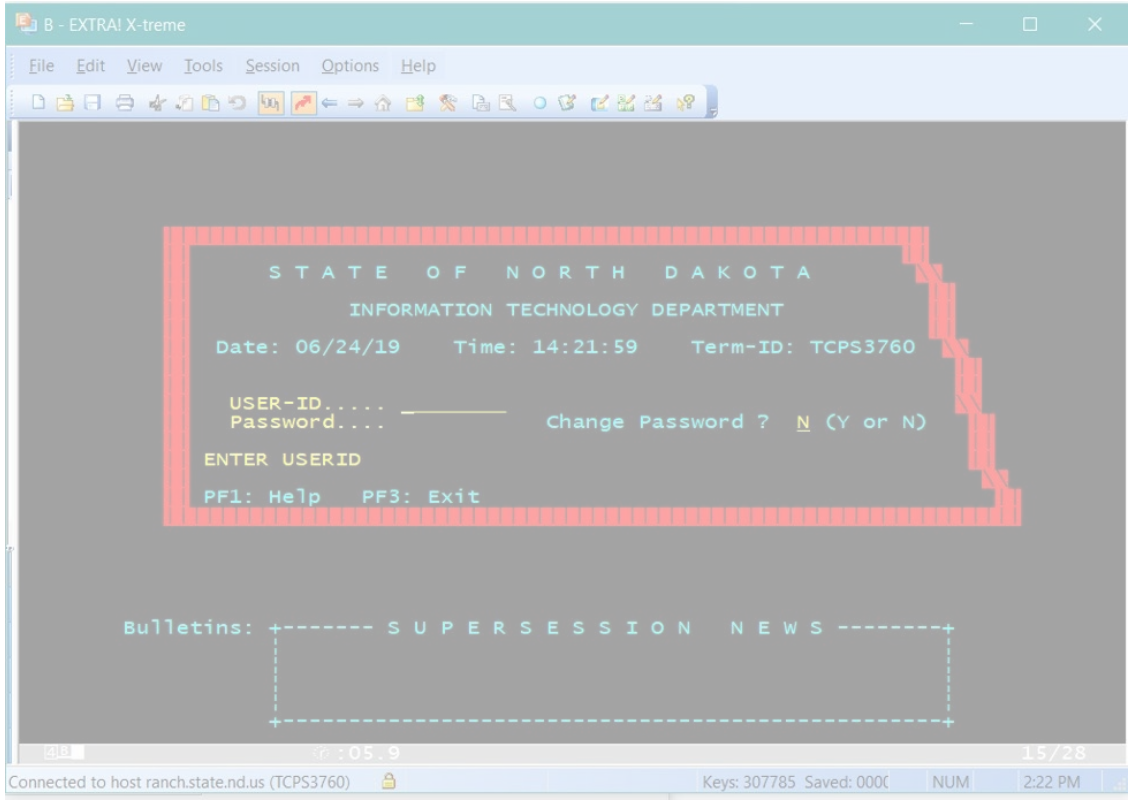
ENTERPRISE DIGITIZATION - MAINFRAME

- History
  - Developed in the 1960's
  - Many enhancements over the years
  - The hardware is new and replaced regularly
- Challenges
  - Anchor Tenants (DHS/DOT) are moving rapidly off the mainframe by modernizing large applications



ENTERPRISE DIGITIZATION - MAINFRAME

- Challenges
  - Workforce
    - Decreasing Applicant Pool
    - Increased cost to support through service contracts
    - Security Challenges with Vendor Support
  - Increased Cost to Support
  - Last Agency Standing



ENTERPRISE DIGITIZATION - FORMS

- Forms History
  - 8000 State Form Numbers
  - Fillable PDF's are everywhere
    - Available on Websites and Distributed Everywhere
    - Manual or Semi-Manual process to extract the data

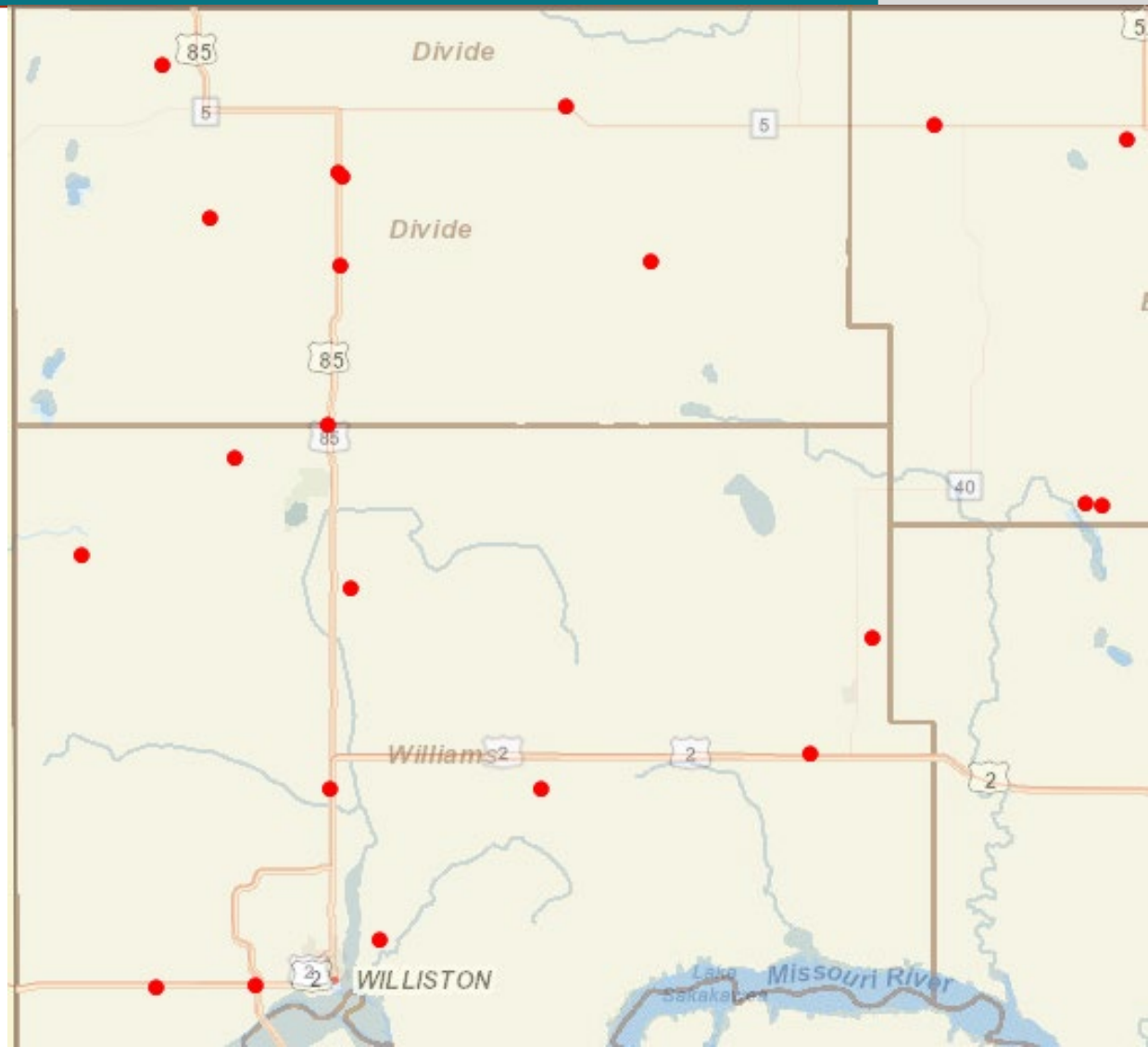
- The Goal
  - Modernize Forms to Eliminate Paper
  - Collect Data
  - Sunset Products that lack modern support
  - Simplify the interaction with State Government

GEOSPATIAL PROGRAM AT A GLANCE

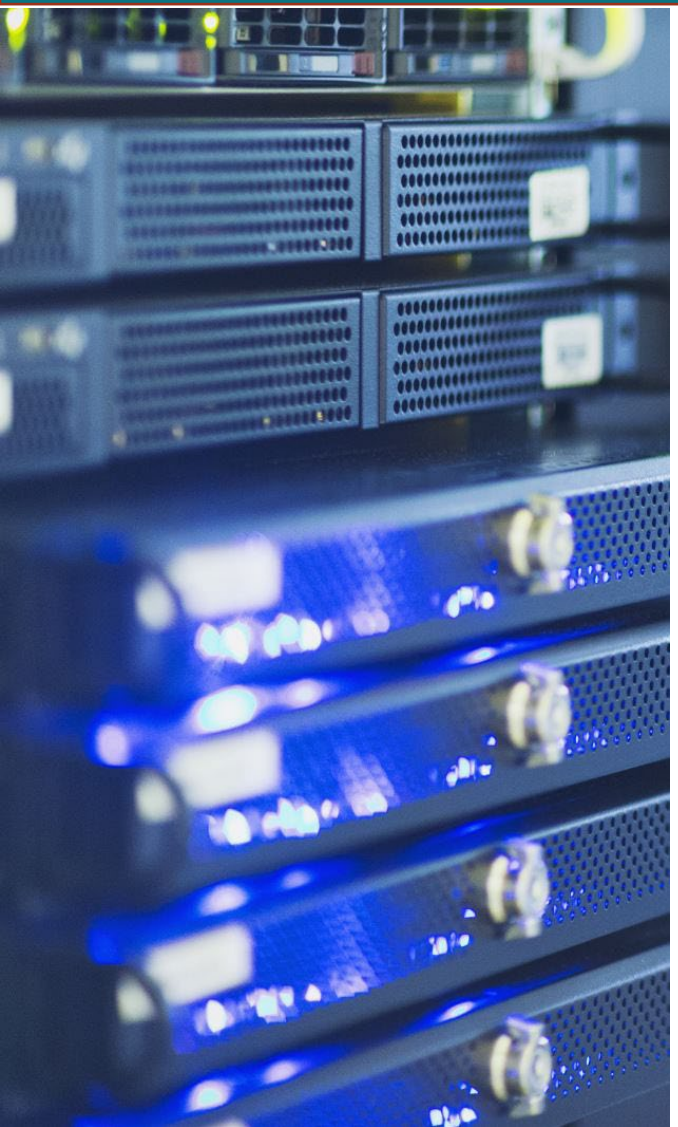
642 average downloads/month	**545,742** average web service transactions/day	**10** databases	**173** web services
15 responsible agencies	**353** database user IDs	**64** public apps & maps	**79.5** TB storage
17 statewide imagery datasets	**21** years in operation	**320** public layers	**19,886** average web application transactions/mo

GEOSPATIAL PROGRAM AT A GLANCE

- Examples of Layers
  - Cell Phone Tower Locations
  - Earthquake Locations (History)
  - Rock Formation Layers (History)
  - Hospitals/Trauma Regions of the State
  - State Park Locations
  - Watersheds



IT STANDARDIZATION, APPLICATIONS & SECURITY

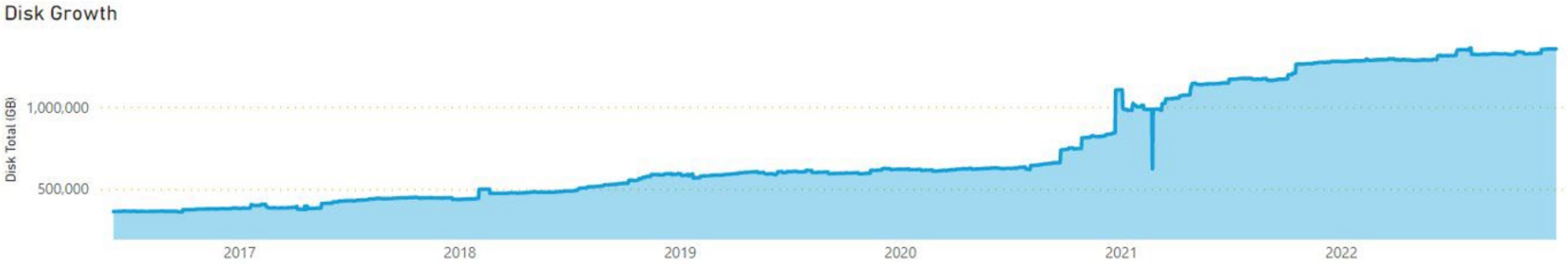


To Consolidate & Standardize IT Services Under One Umbrella Through NDIT:

- WHY?
  - Standardization
  - Risk associated with Knowledge
  - Simplify interactions with other agencies on standardized systems

IT STANDARDIZATION, APPLICATIONS & SECURITY

- Current Constraints
  - Support Teams have had considerable growth
  - Dedicated Resources
  - Existing Growth in Services
    - Data Growth of over 400%
    - 40% Growth in Hosted Platforms



IT STANDARDIZATION, APPLICATIONS & SECURITY

To Consolidate & Standardize IT Services Under One Umbrella Through NDIT:

- File/Data Services
  - 30+ TB of File Services
  - 2 Petabytes of data
- Server Infrastructure (Big Data Compute and Storage)
  - Data Processing and Hosting
  - Over 2 Petabytes of Data
- Business Analysis
- Project Management
- Project Oversight

SECURITY EXPERT (DOOR SECURITY)

NDIT 2023-2025 Executive Budget - Security Expert					
Program - NDIT Operations	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
NDIT Operations	0.0	$ 226,900	$ -	$ -	$ 226,900
One-Time Funding (SIIF)	0.0	-	2,499,467	-	2,499,467
Total	**0.0**	226,900	2,499,467	-	2,726,367

SECURITY EXPERT

- Whole of Government Approach to Security and Maintenance Systems

- Current system is End Of Life Soon
  - New physical hardware not compatible with current system
  - No Mobile Support

- Benefits
  - Modern system with modern authentication
  - More secure facilities at the Capitol Complex
  - Better reporting for security access
  - Visibility into the enterprise
  - Single Solution for all facilities on Capitol Campus
  - Hosted in a standard data center environment

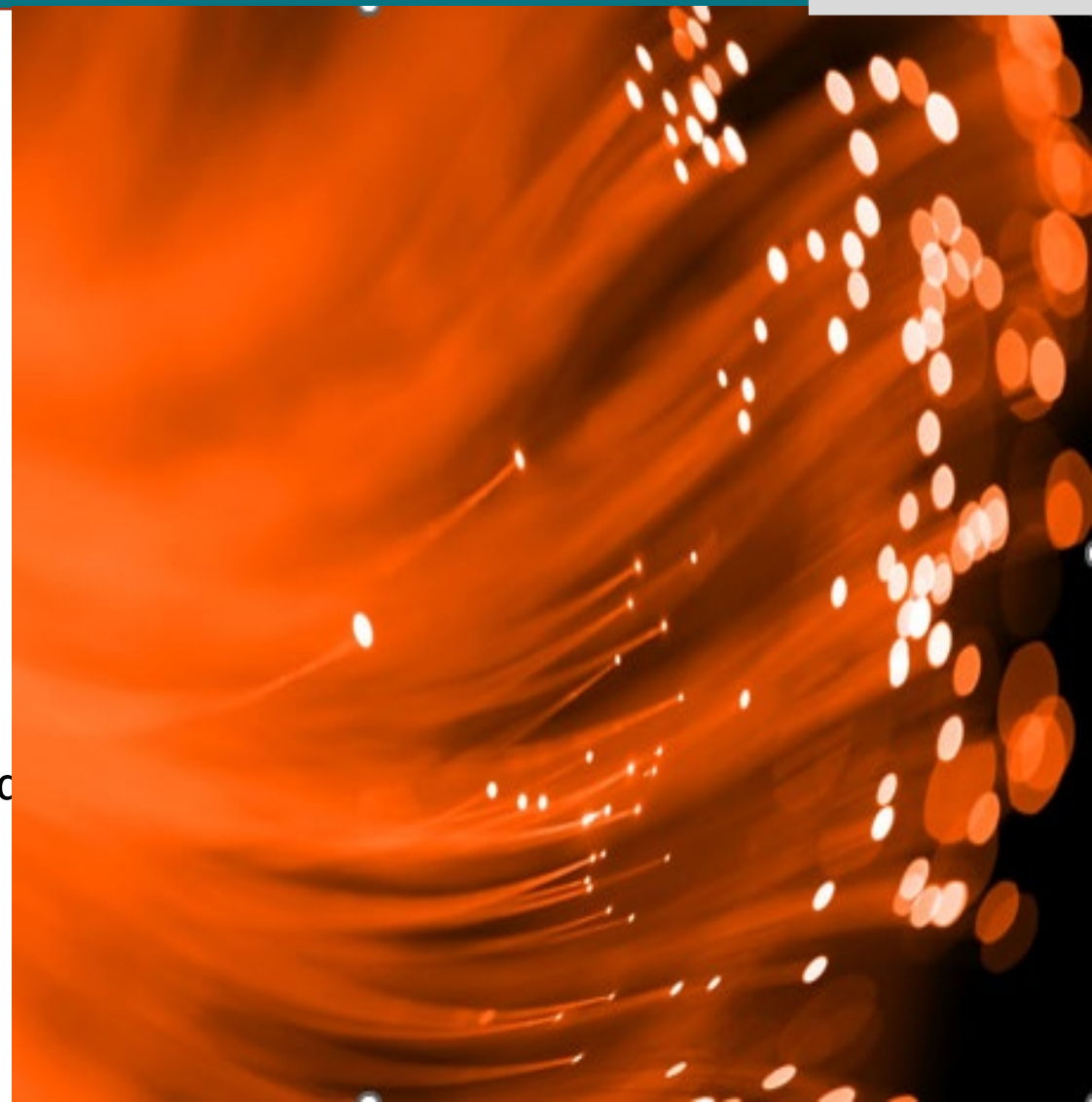
SECURITY EXPERT

- Phase I (approximately 300 Doors)
  - Capitol Tower and LW
  - Judicial Wing
  - Other Capitol Complex Buildings
  - DOT (operational only)
  - Highway Patrol
- Other Agency Interest
  - WSI
  - BND
  - Game and Fish
- Doors and Door Controllers
  - Approximately 300 Doors in Phase I

CAPITOL UPGRADES

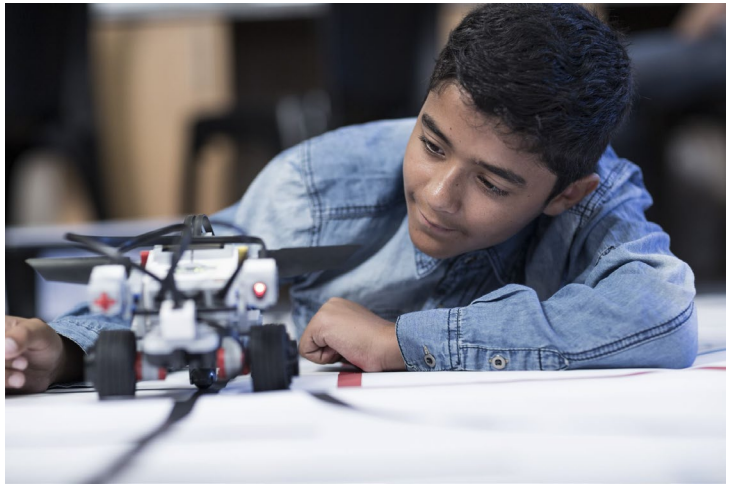
- Aging Capitol Network Infrastructure
  - Current fiber cabling is 15-25 years old
    - Inconsistent with current standards
  - Difficult and time consuming to run new fiber

- Benefits
  - Faster Wireless
  - Faster 100 GB Network
  - Faster Connectivity to the Data Center in the Capitol Build
  - Easier and faster to replace damaged cables
  - Easier to add capacity in the future



K-12 CLASSLINK

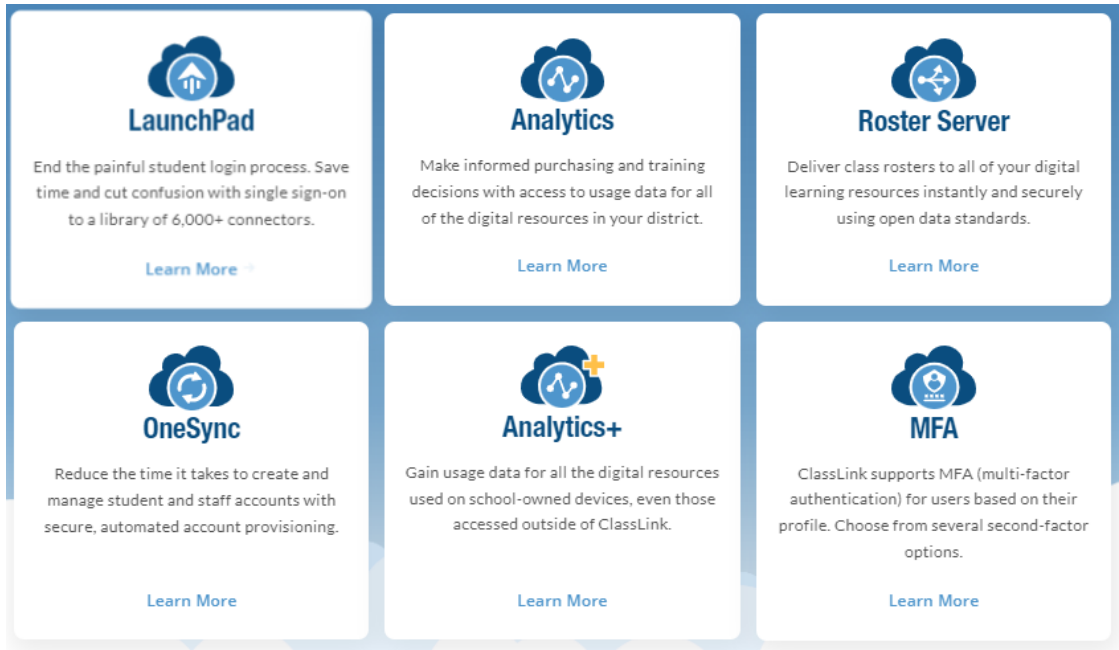
NDIT 2023-2025 Executive Budget - K-12 Classlink					
Program - K-12 Network	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
K-12 Network	2.0	$ 1,905,888	$ -	$ -	$ 1,905,888
Total	**2.0**	**1,905,888**	**-**	**-**	**1,905,888**



CLASSLINK

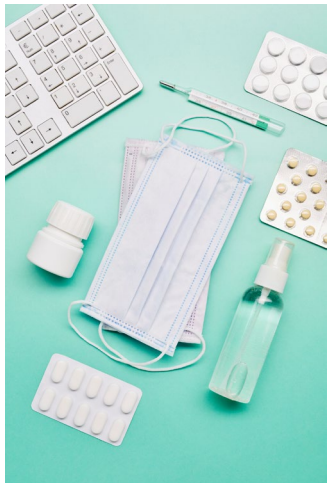
- Pilot (2022)
  - Easy, fast, and secure way for students and families to use classroom technology
  - 24 districts with 21,000 students and teachers.
- Single Sign-On
  - Simplify access to educational technology tools
  - Increased Security for educational tools
- Analytics
  - Show tool usage by the district, school, classroom, and student to help educators and leaders make decisions on educational tools
- Support
  - Implementation and Training Resource
- Replaces Aging Identity Management Infrastructure

ClassLink



ND HEALTH INFORMATION NETWORK (NDHIN)

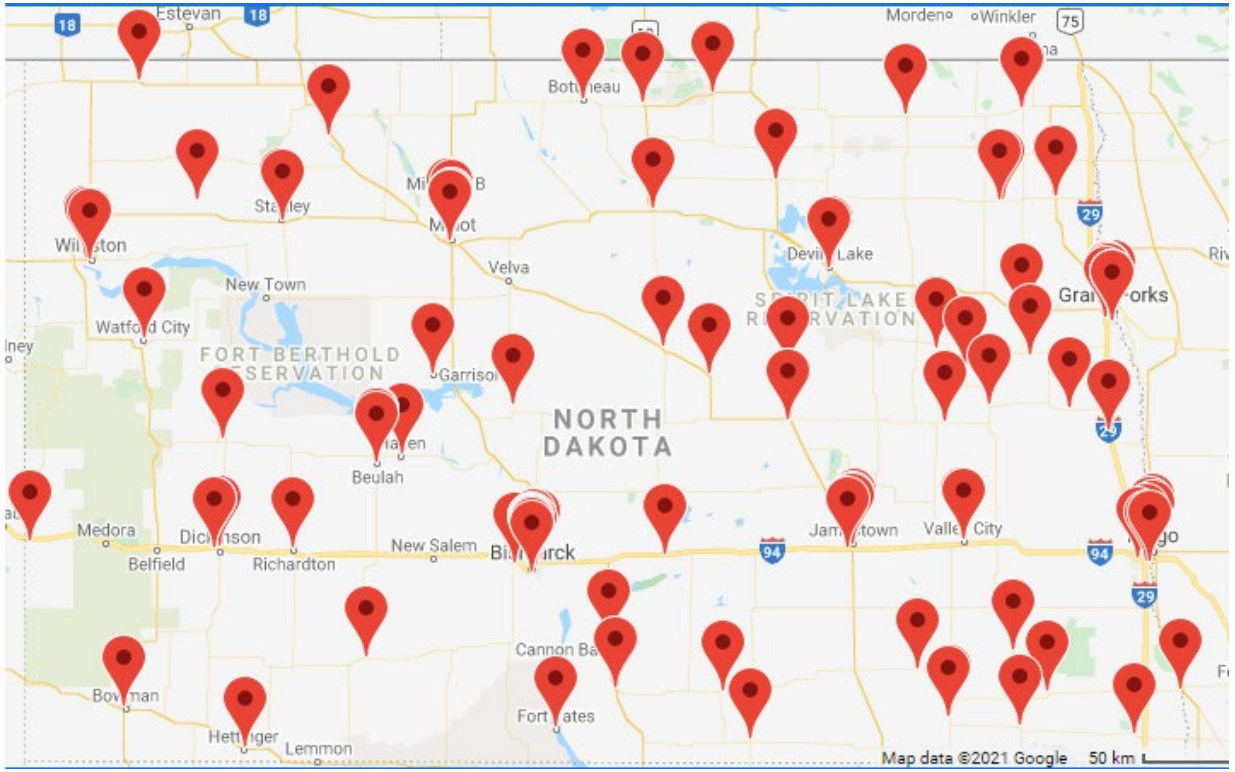
NDIT 2023-2025 Executive Budget - Health Information Network					
Program - HIN	**FTE**	**General Funds**	**Special Funds**	**Federal Funds**	**Total**
Health Information Technology	0.0	$ 3,000,000	$ 3,000,000	$ (6,000,000)	$ -
Total	**0.0**	**3,000,000**	**3,000,000**	**(6,000,000)**	**-**



ND HEALTH INFORMATION NETWORK (NDHIN)

2022 SNAPSHOT

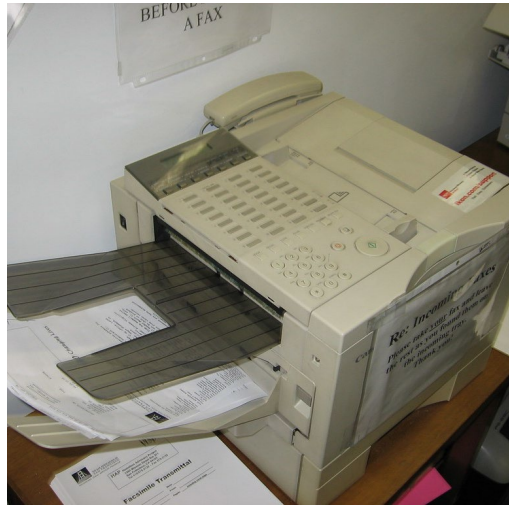
- 352 Participation Agreements
- 1.47M Unique Patient IDs
- All tertiary and Critical Access Hospitals participating
- Data feeds increased from 361 feeds in 2018 to 679 feeds in 2022
- 5331 Active Users



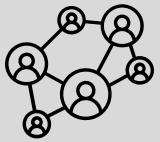
https://www.ndhin.nd.gov/providers/providers-map

BEFORE NDHIN

- Manual Workflows, Processes
- Increased Burden Providers, Patients, and State
- Increased Risk for Errors and Breach of Information

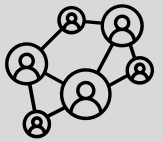


NDHIN HISTORY



- Launched in 2010 with federal funds (HITECH)
- Broad stakeholder support statewide
- Governor Appointed Advisory Committee
- Worked with Medicaid to support the EHR Incentive Program (Meaningful Use/Promoting Interoperability)
- Worked with the ND HHS to facilitate electronic public health reporting

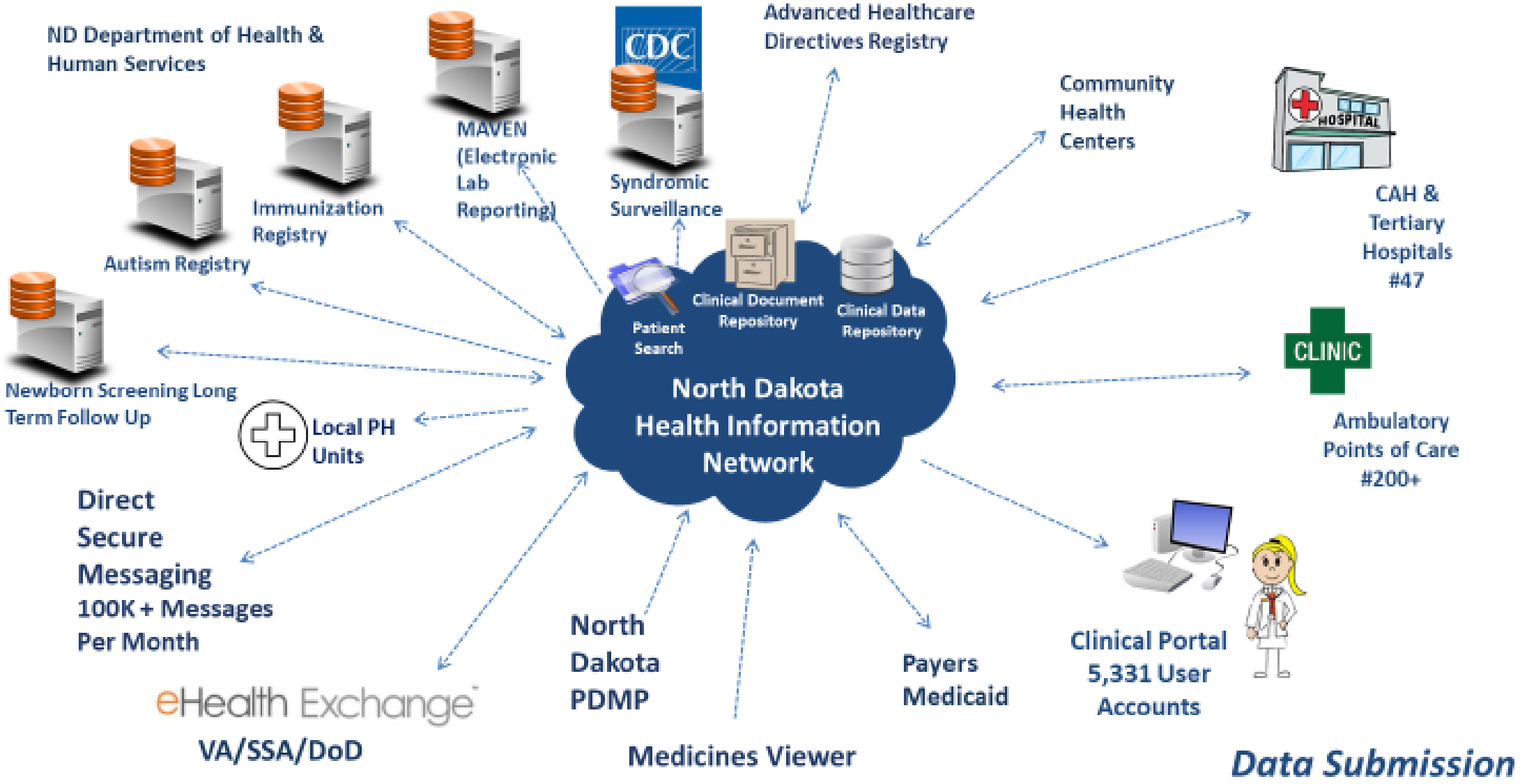
NDHIN FUNCTIONALITY & SERVICES



- **Patient record search for the following patient information:**
- Allergies
- Medications
- Encounters
- Laboratory Results
- Radiology Reports
- Transcribed Documents
- Images
- Prescription Drug Monitoring Program (PDMP)
- Access to National Networks (eHealth Exchange, Patient Centered Data Home, Carequality)

- **NDHIN Services:**
- EHR interoperability with Single Sign On access capability
- Clinical Portal Access
- Direct Secure Messaging/Communicate Portal, HISP, XDR
- Encounter alerts and notifications
- Electronic Public Health Reporting
  - Immunization Data
  - Syndromic Surveillance Data
  - Electronic Lab Reporting/Reportable Conditions
  - Autism Registry
- Advanced Health Directive Registry
- Send/receive sensitive messages securely

1.47 M Unique Patient IDs



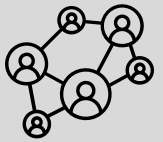
NDHIN & ND HEALTHCARE PROVIDERS

- Health information exchange of patient medical records with all hospitals – tertiary & critical access; most Community Health Centers; all Rural Health Clinics
- Longitudinal community health record made up of all records transmitted to NDHIN is provided back to participating providers for coordination of patient care
- Facilitates required public health reporting electronically on to the ND Department of Health to assist providers with compliance

NDHIN & ND MEDICAID

- Supporting Managed Care Organizations to improve coordination of care for the Medicaid Expansion population
- Sanford Health Plan
- Blue Cross Blue Shield North Dakota
  - Alerts & Notifications

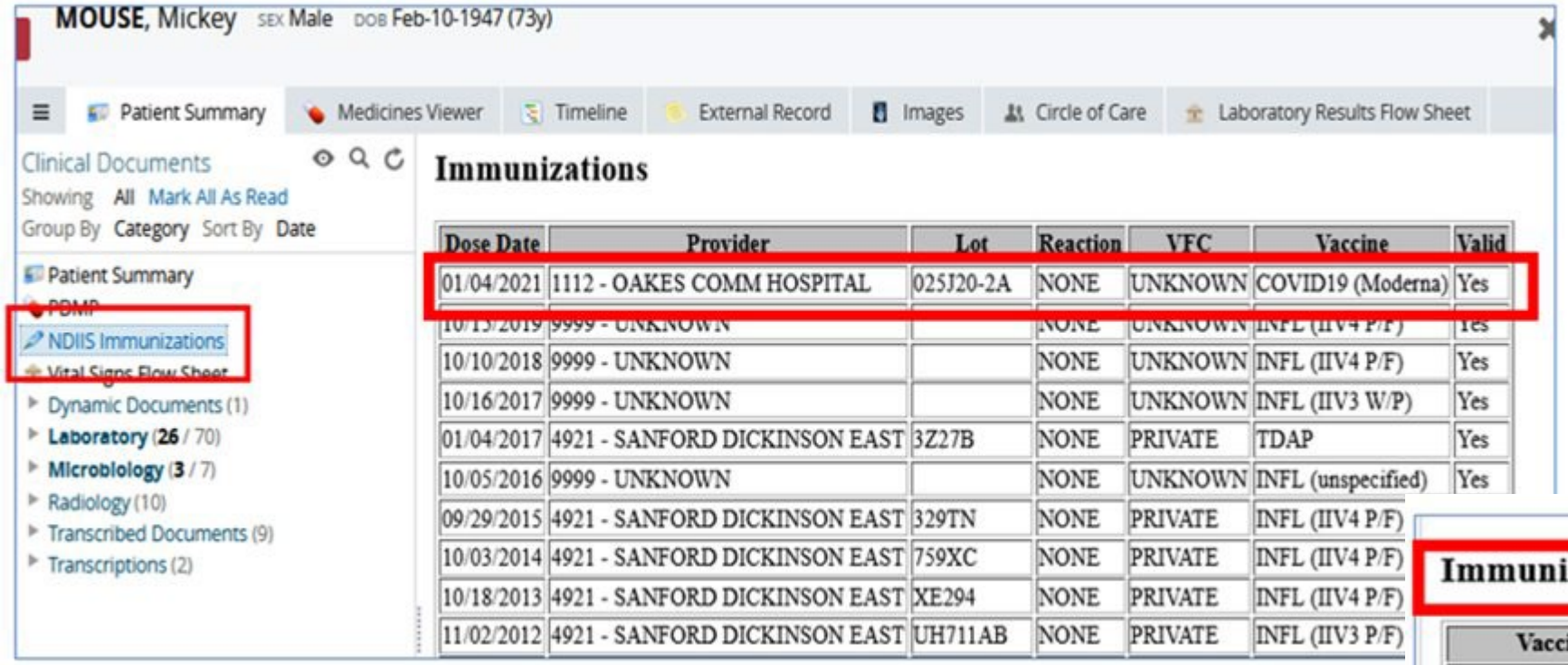
NDHIN & HHS COLLABORATION



Electronic Public Health Reporting

- Meets regulatory compliance required by NDDOH and ND Century Code
- Ensures reporting is done in a timely manner
- Facilitates electronic reporting of immunizations, syndromic surveillance, and electronic laboratory reporting (ELR) from healthcare provides on to State and CDC
- Specialized Registries:
  - Autism/Advance Healthcare Directives
- Electronic Test Orders and Results (ETOR)
- Meets regulatory reporting requirements for Merit-based Incentive Payment System (MIPS)/Interoperability reporting
- Data Modernization Initiative – improving interoperability with public health systems

NORTH DAKOTA IMMUNIZATION INFORMATION SYSTEM (REGISTRY)



Dose Date	Provider	Lot	Reaction	VFC	Vaccine	Valid
01/04/2021	1112 - OAKES COMM HOSPITAL	025J20-2A	NONE	UNKNOWN	COVID19 (Moderna)	Yes
10/10/2018	9999 - UNKNOWN		NONE	UNKNOWN	INFL (IIV4 P/F)	Yes
10/16/2017	9999 - UNKNOWN		NONE	UNKNOWN	INFL (IIV3 W/P)	Yes
01/04/2017	4921 - SANFORD DICKINSON EAST	3Z27B	NONE	PRIVATE	TDAP	Yes
10/05/2016	9999 - UNKNOWN		NONE	UNKNOWN	INFL (unspecified)	Yes
09/29/2015	4921 - SANFORD DICKINSON EAST	329TN	NONE	PRIVATE	INFL (IIV4 P/F)	
10/03/2014	4921 - SANFORD DICKINSON EAST	759XC	NONE	PRIVATE	INFL (IIV4 P/F)	
10/18/2013	4921 - SANFORD DICKINSON EAST	XE294	NONE	PRIVATE	INFL (IIV4 P/F)	
11/02/2012	4921 - SANFORD DICKINSON EAST	UH711AB	NONE	PRIVATE	INFL (IIV3 P/F)	

Immunization Forecast

Vaccine	Recommended Date	Minimum Valid Date	Dose
Td/Tdap	01/04/2027	01/04/2022	2
PCV	12/20/2049	12/20/2049	1
PPV	12/20/2050	12/20/2050	1
Varicella	11/11/2009	11/11/2009	1
Shingles	12/20/2034	12/20/2034	1
COVID19 (Moderna)	02/02/2021	02/02/2021	2

NDHIN DATA FEEDS

Admission, Discharge, Transfer (ADT)

- Patient Demographics
- Encounter History
- Allergies
- Diagnoses

Procedures

Observation Results (ORU)

- Lab

Imaging Studies

- Radiology Reports/Documents

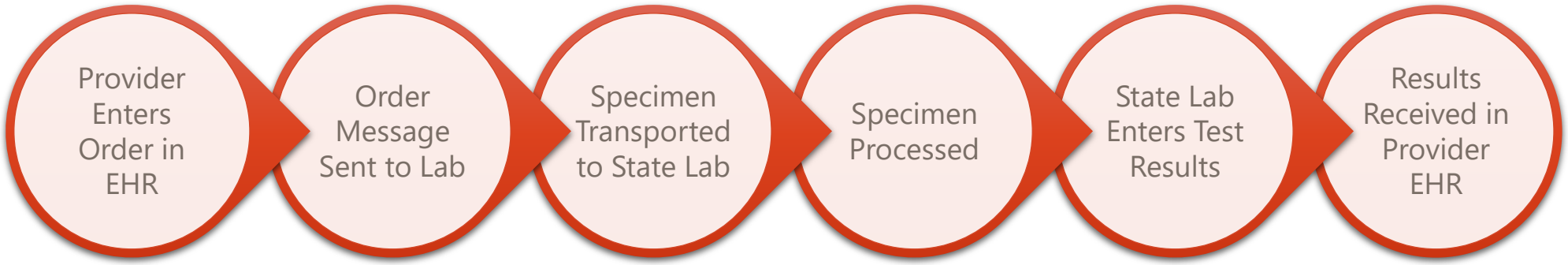
Medical Document Management (Clinical Documents)

- Summaries – Discharge/Encounter
- H&P's
- ED Visit Notes
- Reports – Operative/Consult
- CCD/CDA

ELECTRONIC TEST ORDERS & RESULTS

Benefits of ETOR

- Reduces errors
- Improves Efficiency/Saves Time
- Improves coordination of patient care
- ND Locations: 22



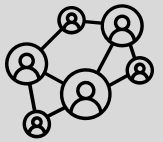
NEWBORN SCREENING

- NDHIN Pathway used for care coordination
  - Benefits
    - Improved coordination of care for a very vulnerable population
    - Potential reduction of costs for a high-cost Medicaid population
    - Use of Care Coordination module to develop a care pathway

BENEFITS TO CITIZENS

- Reduce misreporting or gaps in transitions of care provided
- Help avoid usage of paper records or fax/scanned information
- Enhances quality and safety of care as well as patient privacy
- Sensitive data remains safe and protected
- Reduces costs and saves time and resources
- Helps avoid manual data input and related errors
- Allows accurate and quicker collection of public health data

NDHIN AS THE HEALTH DATA UTILITY FOR NORTH DAKOTA



- The NDHIN Expansion Project helped the HIE to progress to a broad and comprehensive level of functioning to put NDHIN at a level to function as the State's Health Data Utility.
- Health Data Utilities (HDUs) are statewide entities that combine, enhance, and exchange electronic health data across care and services settings for treatment, care coordination, quality improvement, and public and community health purposes through specific, defined use cases in accordance with applicable state and federal laws protecting patient privacy.

THANK YOU

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