

North Dakota increased automation and use of public health data through process enhancements and partnerships



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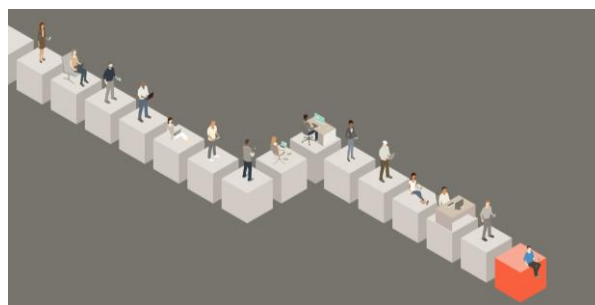
CATEGORY: **Epidemiology and Laboratory Capacity (ELC)**

CATEGORY: **Partnership and Innovation**

Through the introduction of new partnerships and automations, North Dakota Department of Health and Human Services (NDHHS) was able to implement daily reporting dashboards and reports for COVID-19 and other conditions. This saved on a significant amount of manual labor that originally required staff to work overnight to produce the required data.

The “What”

During the COVID-19 pandemic response, the need for timely, accurate data was a priority for public health, policy makers, and the public. The appetite to produce timely data remains an expectation for routine public health functions. COVID-19 funding provided public health with the means to hire and train a workforce capable of collecting, cleaning and reporting timely, quality data. Training plans and operating procedures were developed to quickly train staff for conducting case investigation and contact tracing for COVID-19 cases. A standard procedure manual was developed that contained what data to collect, and why and



how to use the surveillance system to enter collected data. Staff resources were expanded to include assistance from local public health units, universities, the National Guard and tribal partners. Furthermore, the North Dakota Department of Health and Human Services (NDHHS) established data quality teams dedicated to reviewing and addressing data quality issues.

Another challenge was once the data was collected, accessibility to the public and others in a timely manner (daily public reporting) was of utmost importance. Daily reporting required the staffing of overnight analysts equal to approximately 12 person-hours per night. This approach was not sustainable; therefore, NDHHS, in partnership with the North Dakota Information Technology Department (NDIT), implemented a COVID-19 data warehouse. This new process enabled the production of refreshed datasets, reports, and dashboards available to public health, the public, and other state agencies.



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The “So What”

Automating data processes to produce prepared data sets has increased access to timely data, reduced errors from manual processes, and enabled scalability of handling and processing of surveillance data. The processes and partnerships with NDIT furthered the rapid development and use of dashboards and reports beyond COVID-19. Improvements in automation were successful, discovering alternate methods to produce data sets outside of NDIT support as well. As an example, a disease surveillance dashboard was developed to produce real-time data access to internal disease surveillance epidemiologists. The dashboard included standardized data sets that can be used for data quality and data completeness reviews. This dashboard eliminated the need for staff to conduct frequent data pulls from the electronic disease surveillance system.

The “Now What”

NDHHS’s ELC program has begun to better understand the different data systems and data infrastructures currently being used and how to shift methods based on resources and needs. Future goals to use additional data alongside traditional reportable disease surveillance data by leveraging the data warehouse will require continued movement toward modernizing our data systems, discovering shared resources and retaining knowledgeable staff. If funding levels continue to decrease, or even return to pre-COVID funding

levels, much of this work will cease and progress will be lost. New staff have been provided professional development and training whose skill set is vital to public health surveillance and outbreak detection and response beyond COVID-19. Data needs continue to expand and, as NDHHS builds partnerships with other agencies and organizations, processes, procedures, and staff will be expected to operate in a fast-paced, data-driven ecosystem. This cannot be maintained or be successful without long-term, stable, flexible funding.

Key contributors to this project include Benjamin Schram, Data Modernization Coordinator; Tracy K. Miller, State Epidemiologist; and Mike Benz, Enterprise Architect, North Dakota Department of Health and Human Services