

Wyoming: A Portal to Save the Day

Innovations in Informatics: Laboratory Success Stories

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When you are waiting on laboratory test results during a pandemic, the last thing you need is a delay due to paperwork. With an unprecedented volume of testing during the SARS-CoV-2 pandemic, the effort for healthcare facilities and laboratory staff to manually enter test orders and results took time away from patient care. In collaboration with APHL, the Wyoming Public Health Laboratory implemented a web portal that accessioned hundreds of samples in minutes rather than in hours and gave providers real-time access to patient results.

The situation

Amid the SARS-CoV-2 pandemic, healthcare facilities across Wyoming were required to gather and submit information on patients' samples at a level never seen before. They had to include critical epidemiologic information, manually input the data into a user interface and send a packet of printed papers with every sample. Healthcare facilities were forced to spend inordinate amounts of time on data entry exactly when they needed to focus on patient care. The data entry staff at the Wyoming Public Health Laboratory was equally overwhelmed. The two-person team ballooned to a 10-person crew to handle the onslaught of samples and the increased time required to accession and label each one.

The solution

During the spring and summer of 2020, through an initiative sponsored by APHL, the laboratory worked with state epidemiology and a number of high-volume pilot sites to implement iConnect's Laboratory Web Portal. This portal is a web-based application hosted on the AIMS Platform that streamlines test ordering and results reporting between submitting partners and testing laboratories, allowing them to electronically exchange information. The organizations worked together to define the information collected and shared the test order forms so that universal templates could be used by submitters.

This solution provided immediate relief. On July 29, 2020—as cases of SARS-CoV-2 soared—Wyoming went live with the web portal, significantly decreasing submission time for submitters and easing their burden and allowing them to focus on patients first. It also streamlined the internal processes in the laboratory, ensuring data quality and efficiency for every sample received.

Impact

- Staff hours saved
- Improved data quality
- Faster turnaround time data
- Better patient care

Implementing the laboratory web portal allowed Wyoming to streamline their pre-analytical process so the laboratory could process more samples in the same amount of time, accessioning hundreds of samples in minutes rather than hours. This expedited process enabled result turnarounds at a previously unreachable rate. Submitters' real-time access to patient results allowed for quicker patient treatment and mitigation of transmission. And because the portal connected directly to the laboratory's information management system (LIMS), Wyoming could forecast volume and staff accordingly. The laboratory was also able to eliminate manual data entry, improving data quality and saving time.

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Reflections

Collaboration

This implementation was a hugely collaborative project and required dedication from a variety of organizations. The adoption of the laboratory web portal was made possible with support from APHL and iConnect Consulting, but the implementation required the Wyoming Public Health Laboratory, state epi and submitters across the state to participate in the pilot. Each organization had different needs and goals, but at the heart of the initiative, everyone was effectively working to improve the health outcomes of the citizens of Wyoming.

Challenges

It was difficult to find the time and resources (people) to dedicate to the piloting and implementation at a time when all resources were being directed to patient care or testing. Even then, it was a challenge to convince laboratory leadership that this was a worthwhile effort and would ultimately save time. Overcoming the “fear of change” is a chronic informatics challenge. It wasn’t until everyone felt their basic needs would be met—epidemiology would get the specific information they wanted, providers were assured of a smooth process and the laboratory would gain an efficient and logical workflow—that everyone came on board.

Suggestions for others

Be prepared to hear criticism and take suggestions for improvement. Every entity has slightly different needs and goals, and each one will have to be somewhat flexible to be successful. Onboarding documentation is key to a successful implementation. Make sure that there are resources (people, time, space) allocated towards good documentation and that it is widely accessible. Finally, be bold and ask for what you want; there is a good chance the developers can make it happen.

Up next

Once the portal was stable for SARS-CoV-2 test order submission, the laboratory began to migrate their entire testing catalog, **ensuring that critical connections are in place for future emergencies.**

Wyoming is currently evaluating ways to build upon the success of the laboratory web portal and enhance its capabilities to improve laboratory operations on a wider scale. They are looking to:

- Implement supply order functionality through the portal,
- Develop the ability to allow submitters to print labels at the time of submission and
- Expand across programs and accommodate the addition of the laboratory’s Chemical Testing Program.

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