

Alaska: Racing Against the Clock to Migrate Their LIMS to the Cloud

Innovations in Informatics: Laboratory Success Stories

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When funding cuts threatened to terminate the Alaska Public Health Laboratory's plans to migrate their laboratory information management system (LIMS) to the cloud, the lab accelerated a planned nine-month cloud migration to just three months. Alaska not only met an impossible deadline but also modernized its infrastructure to better serve public health.

The situation

The COVID-19 pandemic exposed the limitations of Alaska's on-premises LIMS. The lab's testing volume surged from 100 samples to 2,000 samples per day, seven days a week, for two years. This unprecedented demand strained server storage capacity, forcing the lab to continuously expand physical infrastructure through hardware and licensing purchases. By 2025, the lab faced \$500,000 in upgrades just to maintain existing services.

A cloud-hosted system promised flexibility to scale up or down as circumstances required, reduce physical infrastructure needs and lower overall costs. The lab had been planning a careful, 9-month migration of their Clinisys LIMS to the cloud.

Funding rescissions in March 2025 forced immediate budget cuts across Alaska's Department of Health. Leadership worked late nights reviewing allocations line-by-line to determine what could be salvaged. Given the potential cost savings of cloud migration, the lab insisted on moving forward with the project. With support from the Health Commissioner, the lab received approval—but with a catch: the entire migration had to be completed by July 1, giving them just three months instead of nine. If they missed this deadline, their on-premises system would be considered unsustainable, further complicating the future of the laboratory's ability to support an acceptable reporting system.

The stakes could not have been higher. Alaska's public health laboratory relies on Clinisys for all clinical testing. The LIMS tracks samples through the entire testing lifecycle, from accessioning to reporting. It's essential for CLIA compliance, documenting laboratory test results and reporting to submitters and public health surveillance. A laboratory simply cannot operate without a LIMS.

The solution

Alaska's approach centered on three strategies: leveraging every available resource, building strong partnerships and making strategic compromises to meet the deadline.

Impact

- Cost savings and scalability
- Reduced infrastructure burden
- Built Workforce Capacity

The cloud-hosted LIMS provides the flexibility to expand or contract as circumstances require, reducing the need for costly hardware investments. The lab gained server room space and reduced overall infrastructure costs.

Most critically, the lab maintained continuity of operations. By meeting the July 1st deadline, Alaska ensured that public health testing could continue without interruption—a feat that required coordination across disparate teams throughout the Department of Health and their vendors.

More money towards testing and less towards infrastructure.

Racing Against the Clock: Migrating LIMS to the Cloud

It takes a village. The lab mobilized support from multiple programs. CDC Foundation's Workforce Acceleration Initiative (WAI) provided multiple resources to the lab, including a project manager. Alaska utilized the Public Health Infrastructure Grant (PHIG) to bring on two contractors and an intern to help with interfacing, programming and documentation. With the lab team fully allocated, this extra capacity proved indispensable.

Alaska reached out to CDC and the APHL Technical Assistance team to validate existing public health reporting data exchanges, including PHLIP ELSM, LRN and ARLN. The lab also coordinated with the State of Washington, for whom Alaska performs tuberculosis testing support.

Partnership with Clinisys. The lab amended their support contract with Clinisys, whose transition team stepped up to identify what was absolutely essential for a minimally viable go-live. Together, they compressed the 180-day schedule to 75 days. Having an established working relationship with the vendor made this collaboration possible. As part of the migration, Alaska upgraded to the newest version of Clinisys, requiring a complete database upgrade. The extraction and file transfer took four days via SFTP connection. Clinisys received the data on a Sunday night, giving them one day to process it through their upgrade before go-live on Monday.

Despite these challenges, Alaska went live with their new cloud-hosted LIMS before the July 1st, 2025 deadline, assuring that critical testing could continue.

Reflections

Collaborations

This project succeeded because of collaboration at every level. Lab leadership was able to leverage their longstanding relationship and trust with the Health Commissioner, who approved the accelerated timeline based on the Lab Chief's assessment that the migration was essential. The lab had to coordinate with central IT for validations and firewall setup while simultaneously onboarding new equipment and new tests, requiring support from instrument vendors, the Clinisys team and lab staff to ensure seamless interfacing. The migration wasn't just about the LIMS—it was about all the auxiliary systems that interface with the LIMS, each of which needed to be planned, implemented, validated and tested with the new environment.

Challenges

To meet the deadline, Alaska had to accept risk. The lab initially planned to run the cloud and legacy systems in parallel to reduce effects on users and stakeholders. That proved impossible within the timeframe. Alaska also had to discontinue plans to move their Rhapsody integration engine to the cloud, creating a less efficient workflow where data travels to the cloud and back to on-site servers for reporting. And beyond the compressed timeline, Alaska navigated a hiring and travel freeze that limited flexibility. Federal funding windows for ELC and PHIG funds were short and complicated by government operations.

Up next

Alaska continues to enhance its cloud-hosted LIMS, working toward full production status for all integrated systems. Future plans include full integration with the State's health information exchange (HIE) and onboarding more partners for electronic test orders and results (ETOR).

This is a story about the power of connections—people and systems.

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