

Wyoming Public Health Laboratory Consolidates All Laboratory Functions Under One System, Significantly Reducing Turnaround Times with STARLIMS Public Health LIMS Solutions

By consolidating lab testing under STARLIMS, the Wyoming Public Health Laboratory now better serves its community through faster turnaround times, seamlessly connected systems for increased collaboration, and complete end-to-end traceability.

Despite being the 10th largest state, Wyoming has the fewest number of people, making it the second most sparsely populated state in the United States. Wyoming's only public health lab – the Wyoming Public Health Laboratory – is a rural and frontier laboratory that supports its community of approximately 550,000 people. As it is the sole public health lab within the state, the facility faces the unique challenge of having to effectively serve its population with essential services like infectious disease detection and surveillance, chemical testing, molecular diagnostics, water quality testing, and responsiveness to biological, chemical, and radiological threats, all while being geographically isolated.



Business Challenges

As a rural and frontier lab, the Wyoming Public Health Laboratory is accustomed to doing more with less to promote and preserve community health. With fewer than 45 staff members, the lab faced multiple challenges — from resource constraints and manual workflows that slowed testing turnaround times, to fragmented systems and data silos that hindered collaboration with partners like the CDC, local hospitals,

and other agencies. The lab's manual processes not only consumed valuable time but also introduced a higher risk for error. Data and communication silos further complicated operations, making it difficult to integrate systems, share insights, and coordinate across departments, teams, and organizations.

The biggest success for the Wyoming Public Health Laboratory was consolidating all its laboratory functions under one reporting system with STARLIMS, allowing the facility to deliver more efficient sample tracking, improved reporting, better client management, and streamlined communication.

To overcome these constraints, the Wyoming Public Health Laboratory needed a Laboratory Information Management System (LIMS) that could consolidate all lab functions and programs under one single solution, integrate seamlessly with external tools and systems to eliminate silos, and automate processes to reduce manual burden in the lab — enabling staff to work faster, smarter, and more collaboratively.

Why Wyoming State Lab Selected STARLIMS

In 2006, the Wyoming Public Health Laboratory chose STARLIMS solutions for their flexibility, automation capabilities, and support for compliance initiatives. The laboratory needed a public health LIMS that would streamline laboratory operations and reporting under one roof, which STARLIMS made possible through configurable workflows, seamless integration with other systems and instruments, and improved sample tracking.

One of the main reasons the Wyoming Public Health Laboratory has consistently chosen STARLIMS as its LIMS vendor of choice was the company's support for compliance initiatives. As a state public health entity, regulatory compliance is non-negotiable. The Wyoming Public Health Laboratory needed an ISO-accredited LIMS that offered end-to-end traceability, full auditability for HIPAA, state requirements, encryption, and native HL7 reporting. These were key differentiators over its previous systems, and the lab chose STARLIMS because the company demonstrated that it was more than a vendor, but a partner with a deep understanding of the public health landscape and its compliance needs.



Building on its longstanding and successful partnership with STARLIMS, Wyoming Public Health Laboratory is continuing to future-proof its lab by preparing to upgrade to STARLIMS' next phase in cutting-edge public

health LIMS technology – Life Sciences for Public Health (LPH) 1.1 LIMS. The lab has chosen to purchase LPH 1.1 to strengthen its infrastructure and revolutionize the facility for years to come. LPH 1.1's modern HTML5 interface has made the LIMS solution even more intuitive, and expanded configuration tools will allow the lab to adjust and modify workflows, which is critical for a small lab team that requires flexibility and accessibility to be successful.

Another significant milestone for the Wyoming Public Health Laboratory was reducing test turnaround times, enabling same-day results and faster patient care.

Results

The results have been transformational. The biggest success for the Wyoming Public Health Laboratory was consolidating all its laboratory functions under one reporting system with STARLIMS, allowing the facility to deliver more efficient sample tracking, improved reporting, better client management, and streamlined communication.

Another significant milestone for the Wyoming Public Health Laboratory was reducing test turnaround times, enabling same-day results and faster patient care. STARLIMS Public Health LIMS, paired with the lab portal, has accelerated test execution, tracking, and reporting by eliminating manual tasks. Seamless integration with instruments and tools has boosted staff efficiency, while automated workflows and quick, streamlined barcode scanning and label printing have saved time and reduced errors.

A critical key achievement for the Wyoming Public Health Laboratory was enabling compliance through end-to-end traceability. The lab can now produce audit-ready reports, track records, monitor samples throughout their lifecycle, and meet federal HL7 reporting requirements—all within the system and without added staff burden.

With all the improvements from the STARLIMS system, the Wyoming Public Health Laboratory also realized it no longer needed to dedicate an entire team to accessioning. The new streamlined process allowed cross-trained personnel to accession samples in an hour, freeing up essential time to spend on critical tasks rather than managing paperwork. Further, the facility is now delivering better efficiency, reduced costs, and future-proofed operations through direct data exchange with hospitals and agencies.

Feedback has been overwhelmingly positive. Agencies, partners, and clinicians are receiving faster, more accurate data and diagnostic reports that improve patient care, while the lab staff have embraced the LIMS' usability and workflow improvements. STARLIMS has enabled the lab to operate at a larger scale without added resources—and with LPH 1.1 on the way, the team anticipates even greater benefits from its intuitive HTML5 interface and configurable workflow tools.

For the Wyoming Public Health Laboratory, STARLIMS wasn't just a software implementation or new upgrade purchase. It was a strategic decision that reshaped the lab's ability to serve its population, support public health, and build a resilient, future-proof infrastructure.

Building on its longstanding and successful partnership with STARLIMS, Wyoming Public Health Laboratory is continuing to future-proof its lab by preparing to upgrade to STARLIMS' next phase in cutting-edge public health LIMS technology – Life Sciences for Public Health (LPH) 1.1.

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