# Quest Diagnostics: More Efficient ELR Through a Public/Private Partnership

## Innovations in Informatics: Laboratory Success Stories

Contributors: Kimberly Brown, manager, Laboratory Regulations and Licensure, Quest Diagnostics; Timothy Tubman, director, Medical Operations Regulations and Systems Controls, Quest Diagnostics

**Quest Diagnostics partnered with the Association of Public Health Laboratories (APHL) to send electronic laboratory reports (ELR) through the AIMS Platform to all public health agencies (PHAs). This public/private partnership yielded significant cost-savings for Quest and the cessation of onerous manual reporting. The project simultaneously improved the quality and timeliness of the data reported, enabling public health to quickly take action on potential health threats.**

## The situation

State laws require laboratories to report results to public health for certain state-reportable conditions. While electronic reporting is faster, more efficient and more accurate, the effort required to onboard ELR with each PHA can be an insurmountable burden to the laboratory.

Quest Diagnostics is the world's leading provider of diagnostic information services. Each year, Quest processes approximately 206 million requisitions. Quest manages at least three laboratory information management systems (LIMS) across its facilities. If each LIMS had to connect to each PHA, complete coverage would potentially require the onboarding, testing and continued maintenance of more than 150 point-to-point connections, each with its own messaging requirements and format. Quest needed a streamlined solution to onboard its laboratories to send ELR to PHAs that could be maintained with limited overhead.

## The solution

APHL collaborated with the US Centers for Disease Control and Prevention (CDC) and Quest to design and build a technical solution for centralized reporting and a streamlined onboarding process for PHAs. Quest implemented one HL7 2.5.1 implementation guide across all its laboratories and now sends ELR using a single point-to-point connection with AIMS. The structure and content of these messages are consistent for all ELRs so that Quest developers maintain a single messaging standard across all its systems. Quest sends ELR to AIMS via VPN, where it is validated and routed to the appropriate PHA within the connected network using each PHA's preferred transport protocol.

## Impact

- **Staff hours saved**
- **Streamlined IT solution**
- **Real-time data**
- **Accelerated implementation and onboarding**
- **Successful public/private partnership**

The Quest ELR project represented a paradigm shift from point-to-point connections towards a more efficient spoke-and-hub model. By 2018, ELR reports from Quest had increased five-fold, from about 3 million in 2015 to 16 million in 2018, accounting for 33% of national ELR volume. As a result of this increase, the total national percentage of laboratory reports sent electronically grew by 14%, from 75% to 89%. As of summer 2025, Quest had sent over 300 million ELR messages via the AIMS Platform to PHAs. On a practical level, this increase in ELR translates to timely, more complete, usable data available to public health analysts, **strengthening our ability to respond to emerging public health threats.**

# Quest Diagnostics: More Efficient ELR through a Public/Private Partnership

## Reflections

### Collaboration

A key to the project's success was assembling a team that included staff from different organizations, viewpoints and goals. APHL spearheaded the effort in partnership with Quest, CDC and the PHAs, managing communications, defining roles and responsibilities, clarifying priorities, and encouraging compromise and consensus.

### Challenges

Data sharing agreements rather than technical limitations contributed to most of the project delays. Before onboarding could begin, Quest had to establish an agreement with each PHA that took into account the PHA's specific legal requirements. Further, every jurisdiction had unique compliance and validation rules, and negotiation over messaging requirements imposed substantial unplanned upfront investment of time and resources. APHL mediated across all PHAs to reach a series of compromises that would still allow the use of a single implementation guide.

As APHL begins to work with other clinical laboratories on similar efforts, it is believed that the initial negotiations around the requirements of the ELR message will go more quickly because this project established the groundwork for what PHAs can accept.

### Suggestions for others

When onboarding so many data exchange partners, a phased rollout is recommended. APHL worked first with a select group of pilot PHAs, then onboarded the full network of PHAs in cohort groups. The use of a single implementation guide streamlined the process for Quest and enabled the expansion of the project to other laboratories and use cases. Even in production, a robust change control process is required to maintain compatibility.

## Up next

This centralized approach to public health data exchange and the technical assistance methodology used to implement it have already been replicated for other use cases. Quest now uses the same connection with AIMS to send reportable cancer messages to centralized cancer registries. Several other large-scale laboratories are also in production to report cancer pathology to all applicable central cancer registries.

APHL plans to expand this model further to other partners. Laboratories will be able to streamline their public health reporting by implementing a single data feed for AIMS and reducing point-to-point connections. In turn, PHAs will receive more complete, standardized and validated laboratory data to inform situational awareness and public health action.

**AIMS is reimagining the healthcare IT ecosystem to make it easy for healthcare to report to public health.**

## Share your laboratories' success stories!

Help us reveal what the public health community stands to lose without dedicated and long-term support. Share your story with APHL by scanning the QR code or visiting bit.ly/Lab-Informatics.

*The Innovations in Informatics: Laboratory Success Stories series from the Association of Public Health Laboratories (APHL) showcases innovations and enhancements in informatics, made possible by recent funding opportunities related to COVID-19, data modernization and public health infrastructure. It highlights the critical need for ongoing, targeted and sustainable informatics funding, while celebrating the progress that has been made.*

This research was supported under Cooperative Agreement #NU60OE000104 between APHL and CDC. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC or APHL.

APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES®

7700 Wisconsin Avenue, Suite 1000, Bethesda, MD 20814 | www.aphl.org | 240.485.2745 | info@aphl.org