

Laboratory Information Management System

CASE STUDY: Pathology Laboratory



Client

Our client is a local independent pathology laboratory whose mission is to provide innovative and highly specialized expertise in clinical and anatomic pathology to physicians and patients.

Opportunity

The client wanted a new system to automate their manual workflow activities, integrate their laboratory equipment, enhance the collection of necessary patient data, optionally integrate with clinic information and requisitioning systems, and support a wide variety of billing options. The goal was to replace a legacy MUMPS system and increase the operating efficiency of the lab.

Solution

Charter Solutions was engaged to develop a new, web-based Laboratory Information Management System (LIMS). Charter Solutions consultants first developed an in-depth understanding of the lab's business and operational processes and requirements in both the "as-is" and "to-be" state. During this process operational improvements were identified and implemented. A unique, customizable system was designed and developed with checks and balances as appropriate for quality control, second opinions, and automated mandatory reporting as required by the state of Minnesota.

The system handles a variety of tests conducted by the laboratory including gynecological, surgical, and H. Pylori testing. It allows for the easy introduction of new tests and is scalable to allow for the lab's growth. System highlights include:

- Touch screen and barcode technologies for specimen receiving
- Process automation reduces data entry, test preparation, and tracking
- Automated resulting capture for speedier response to requesting clinic

Technology

The LIMS solution, Pathlab, was written in Java, using an Oracle data base. Open Source components were using to help mitigate initial and recurring costs, including: JBoss, Tomcat, Hibernate, Jasper reports, and JORAM for JMS. All external communications interfaces were HL7 compliant.

Benefits

The new system effectively captures the desired workflow and includes appropriate checks and balances as defined by the business users. The system's interfaces are easily navigable, and effectively capture the interactivity need of both pathologists and technicians.