Introduction to Laboratory Informatics: Life of a Specimen
What is a LIMS?

A LIMS helps laboratories track and manage the workflow of a specimen and its associated data throughout the laboratory, from the time a specimen is received through the reporting of results. It is important to note that In a clinical setting the LIMS is sometimes referred to as a Laboratory Information System, or LIS.

LIMS have many capabilities. A LIMS logs and tracks specimens, automates the workflow within the laboratory, and may interface directly with laboratory instruments. A LIMS tracks results and calculations, can perform data analysis, and electronically report results to clinical providers and public health partners. In addition, a complete LIMS may integrate other business processes and systems in the laboratory's operations such as billing, test quality control and assurance, reagent and kit or forms inventory, as well as others.

LIMS have many benefits including helping laboratories produce accurate, reproducible results faster and more reliably, and making data easier to store, track, and assess over time and across test runs.

LIMS also provide a strong audit trail and keep patient and health data secure.

In addition, having a LIMS allows laboratories to better evaluate and improve their operational efficiency.

Although LIMS have many benefits, they also have some limitations. The data may not be shareable across unique systems.

To stand up and maintain a LIMS or to address issues or technical requests concerning the system requires a significant amount of communication between scientific and administrative laboratory personnel. This can further encumber an already resource-constrained IT team.

In addition, there may only be a few people who can run LIMS reports, including those on a resource-constrained IT team, and running LIMS test data reports may not be high on their list of priorities.

As you can see by the capabilities, benefits, and limitations, the LIMS has specific roles in the laboratory and other application systems can work in conjunction with it.