

# LabKey Observational Study Solutions

## Observational Study Solutions FAQ

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### Q: WHO IS LABKEY?

LabKey is a privately held software and professional services company based in Seattle, WA. The company provides LabKey Server, a powerful open source platform for processing and analyzing biomedical research data. To address specialized research requirements and unique workflows, LabKey software developers work hand-in-hand with scientists and statisticians alike to make enhancements to the platform. These enhancements become freely available to the broader scientific community, providing an ever-more powerful foundation for future research. The company's primary customers are biomedical researchers who need to integrate information from observational studies with large volumes of experimental data from modern, high-through technologies (mass spectrometry, flow cytometry, microarray, microplate, ELISpot, Luminex, etc.).

### Q: WHAT TYPES OF LABS USE LABKEY'S OBSERVATIONAL STUDY SOLUTIONS?

LabKey study solutions are in full production today at several non-profits and biomedical research labs that are conducting observational studies in the areas of HIV vaccine development and research, including the Statistical Center for HIV/AIDS Research and Prevention, the Center for HIV/AIDS Vaccine Immunology at Duke, the Gates-funded Collaboration for AIDS Vaccine Discovery and the Seattle Biomedical Research Institute (SBRI). These clients have the similar requirement of linking observational study information (both animal and human) to high-throughput experimental data (like that gained from flow cytometry, microarray, microplate, ELISpot, or Luminex experiments) and tracking patient results over time.

### Q: WHAT ARE SOME OF THE KEY FEATURES OF LABKEY'S STUDY SOLUTIONS?

LabKey study solutions are web-based systems built on LabKey Server for managing, analyzing, and sharing observational study data. Data can flow into a LabKey study from several sources,

including;

- ▶ **Forms.** Data from forms filled out by study participants can be uploaded in bulk into an animal- or human-based study.
- ▶ **Assays.** Assay results from high-throughput experiments can be uploaded and integrated with data collected on forms.
- ▶ **Specimens.** Specimens can be recorded in a study and associated with participants, visits and lab results. Collaborating labs can then submit requests for authorized delivery of specimen vials.

Quality-controlled results flow out of LabKey Study and are available for export, visualization and permissions-based sharing via your LabKey Server's secure web portal

### Q: WHAT ARE SOME OF THE OTHER FEATURES OF LABKEY STUDY SOLUTIONS?

LabKey study solutions include built-in relationships connecting participants, visits, forms, assays and specimens. Data stored in a LabKey study can be:

- ▶ **Integrated.** Data grids and simple query tools let you combine information from forms, assays and specimens.
- ▶ **Visualized.** Built-in charting tools let you track results across a study or display values for individuals over time. Full integration with R allows you to create custom charts or textual views within your server.
- ▶ **Secure.** Each view, report and dataset can be individually secured so that study team members see only appropriate data.
- ▶ **Exported.** Results can be exported in Excel, text or other formats, including those accessible to statistical tools such as SAS.

### Q: ARE THERE OTHER FEATURES OF LABKEY STUDY SOLUTIONS THAT WILL HELP MY LAB?

Your LabKey study solution displays your analyzed results in your web browser, enabling you to filter, sort, customize, compare, and export experimental runs. You can share data securely with collaborators inside or outside your organization

while exercising fine-grained control over permissions. Centralized administration of the specimen request process makes it easy to authorize and track specimen requests while monitoring the number of specimen vials that remain available.

### **Q: WHAT ARE THE PRIMARY BENEFITS OF LABKEY STUDY SOLUTIONS?**

Research labs and institutes that need to automatically process, distribute, centralize and securely share observational study information are key beneficiaries, particularly if they use high-throughput data in their studies and need to track study information over time. Without a LabKey study solution, these labs typically spend inordinate amounts of time managing multitudes of Excel spreadsheets, uploading data to FTP servers, loading data into custom-built databases, processing and analyzing data using desktop tools and finally distributing results to study collaborators. With a LabKey study solution, all data records are automatically uploaded into a relational database and run through a data processing pipeline. Results are available much sooner and with far less effort. LabKey solutions can also distribute computing load across multiple servers. For large flow cytometer or microarray-based experiments, this means that you can start analyzing your data in hours instead of days. And, of course, by linking to external tools such as R or SAS, you can create custom charts or textual views that are optimized for your research objectives.

### **Q: ARE THEIR ANY OTHER IMPORTANT BENEFITS, SUCH AS INTEGRATION WITH THE DATAFAX AND IDATAFAX SYSTEMS?**

Absolutely. LabKey study solutions integrate with DataFax, a Fax-based data collection system and iDataFax, a system for electronic data collection (EDC) over the internet system. These software products are created by a company called Clinical DataFax Systems, Inc., specifically for clinical trial data management. DataFax has been used in used in trials with over 1,000 sites and over 10,000 patients, including clinical trials conducted by pharmaceutical companies, contract research organizations, universities, and NGOs in the United States, Canada, South America, Europe, Africa, and Asia.

### **Q: DOES LABKEY OFFER PROFESSIONAL SERVICES IF WE**

### **NEED TO ENHANCE AND CUSTOMIZE THE SYSTEM?**

Yes, LabKey's professional services team routinely engages with clients to add new features and capability to the software via custom development projects. LabKey also provides training, update assistance and software support and maintenance programs to help our clients get started rapidly with minimal disruption to their labs.

### **Q: HOW MUCH DO LABKEY SOLUTIONS AND SERVICES COST?**

It really depends on what you are looking for. We have clients who have invested hundreds of thousands of dollars over multiple years to build out feature-rich solutions optimized for their exact workflows. In contrast, we have clients who invest tens of thousands of dollars to optimize a single specific workflow and accompanying report.

### **Q: WHAT PROGRAMMING LANGUAGE IS USED TO CREATE LABKEY SOLUTIONS?**

LabKey Server is written in Java and runs on most modern operating systems, including Windows, Linux, Solaris, and Mac OSX. It can be customized and extended by skilled Java programmers, and has a Javascript API so that developers can quickly develop and deploy new functionality.

### **Q: WHERE CAN I GET MORE INFORMATION?**

More information about LabKey's solutions and services are available on the LabKey web site at [www.labkey.com](http://www.labkey.com), by emailing [info@labkey.com](mailto:info@labkey.com) or by calling a LabKey Solutions specialist at **+1 (206) 701-9975**. 