

## **Digital Transformation of Sylvester Comprehensive Cancer Center Research Lab: A Work in Progress**

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### **1. Background**

Sylvester Comprehensive Cancer Center (SCCC) research lab (RL) is the central hub for research sample processing and shipping. Nearly all documentation is paper based. Previously, every requisition, invoice, and storage record was copied three times to be stored in the lab study folder, invoiced, or long-term stored, respectively. Requests for documentation from the lab were scanned, sent with email reply, and saved on RL staff's local computer. These replicative processes took valuable time from sample processing and shipping. The excessive "paper chase" was overwhelming staff and saving copies on private computers was inefficient. Starting in April 2021, the SCCC RL began a project to transition documentation from paper-based to electronic. We aimed to decrease the paper burden and increase efficiency and accuracy with a "data at your fingertips" model. As metrics, we analyzed the number of sample inquiries and conducted a satisfaction survey.

### **2. Solutions and Methods**

RL conducted a workflow analysis of activities prior to and after sample collection and identified processes to transition to electronic formats. The first workflow change was to provide documentation to the research teams within 24-48 hours of the study visit. In late April 2021, RL started scanning sample documentation (research requisition, sponsor shipping manifests, tracking labels, or RL documents denoting storage for future batch shipping) onto a SCCC RL shared server. This location was selected over proprietary cloud-based storage because SCCC IT can immediately retrieve the twice-daily saved versions in the event of accidental deletion. All research teams were given access to the RL folders identified by protocol number.

### **3. Outcomes**

Sample inquiries from the period of January 2021 until February 2022 were reviewed. From January–April 2021 there were, on average, 28 inquires per month (range 11–41). May–August 2021 averaged 11 inquiries per month (range 7–21). September–December 2021 averaged 3 inquires per month (range 1–5). A comparison of inquires before and after April 2021 reflected a 90 percent decrease in inquiries (28 vs. 3 per month). Although only two months, January–February 2022 averaged 4 inquires per month (range 3–5) perhaps showing plateauing to a steady number of 3–4 inquiries per month. The satisfaction survey revealed that only 25 percent of the 2021 research staff remained employed in February 2022, primarily due to COVID-workforce changes. Therefore, satisfaction survey data was not analyzed because it would not be representative.

### **4. Lessons Learned and Future Directions**

SCCC RL has embarked on a digital transformation and our aim to provide immediate access to data has been very effective. More improvements in 2021 included implementation of a quality control process with an Adobe sign-certified form used for research kit review, creation of an electronic document repository of frequently requested RL documents, and a view-only freezer inventory datafiles. We are presently planning an implementation of a lab management system for ordering requests and an implementation of an inventory system to track equipment, research kits, and shipping supplies. We are developing an electronic medical record research draw order and a customized schedule to view patient appointments.