



Large Scale Sample De-Identification at the Intermountain Healthcare Biorepository

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BACKGROUND

Intermountain Healthcare's Biorepository contains approximately 12 million tissue blocks and pathology slides that date back to the 1960's. Each samples is currently labeled with a patient identifier. Intermountain Healthcare places a high priority on protecting patient privacy so a workflow needed to be developed to solve this problem.

METHOD

In order to protect patient privacy, we decided to capture this information along with a picture of the original label, assign a new de-identified number to the sample, and then physically remove the protected health information (PHI) from the sample. We believed that it would take approximately two years with multiple staff members to complete the project. Contingent staff members were hired for the duration of the project with the ultimate goal of hiring approximately 10 of them as full-time employees at the end of the project to continue de-identifying the approximately 400,000 samples that are received into the Biorepository each year. A database application was built to capture the unique information contained on each sample and take a picture. Each staff member works in a team of two. The first person enters the original sample information into the database and takes the picture.



Image of the complete workstation for De-Identification



Close up of the Data Entry Workstation



Close up of the QC Workstation

A new de-identified unique number is assigned to the sample, and a barcoded label is generated. The sample is then passed to the second person. They scan the barcode to populate the information entered, verify all information is correct, and make any necessary corrections. They then remove all original labels contained on the sample and place the new barcoded label on the sample. Finally, we also implemented a database audit that looks for erroneous information and any duplicate samples entered. This audit helps us identify any samples that were mis-labeled that might have passed through our initial quality check.

RESULTS

Since beginning this process in January 2019, we have de-identified over 1.4 million samples accurately linked to over 534,000 surgical events with numbers growing daily. New standard operating procedures and workflows were developed to ensure quality throughout the entire process.

CONCLUSIONS

The implementation of this system has allowed us to safeguard patient privacy in a large-scale repository. The system ensures that the samples can only be re-identified by Intermountain Healthcare's Biorepository, which enables us to serve as the Honest Broker for this large integrated healthcare system.

We have no significant financial interest or other relationship with the manufacturers of the products or providers of the services that will be discussed or could, in any way, influence the study to be presented.