AMBRA®
Your Medical Imaging Cloud

Cloud Research PACS:
How One Academic Medical Center Eliminated CDs

UC Health™

"The Ambra cloud research PACS enables us to integrate our imaging research in a way that wasn't possible before."

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KEY METRICS

Study Upload & Anonymization
Time Improved by:
3-5X

5 GATEWAYS
Installed for Enhanced
Image Sharing

SUMMARY

UC Health is committed to advancing medical knowledge through clinical research. University of Cincinnati investigators have broad clinical research expertise and conduct NIH funded studies, industry sponsored studies, and phase I-IV clinical trials in nearly all therapeutic areas. The university also has an environment that is conducive for numerous investigator-initiated studies that can be retrospective or prospective in nature.

Medical imaging is a key part of a patient's health record and clinical trial workflows. These workflows are complex; they often involve hunting down imaging off a clinical PACS onsite, requesting imaging be sent from an outside facility, or, worse yet, waiting for imaging data disc to arrive by mail. This process can take anywhere from a few hours when imaging is onsite to days and weeks if imaging is mailed or brought by courier service from an outside facility. UC Health sought to automate their process of managing medical imaging for clinical trials and securely upload, anonymize, and match imaging data with non-imaging clinical data. Working with Ambra Health, they launched an academic research cloud PACS at their facility.

BENEFITS WITH AMBRA:

→ Secure upload and anonymization of trial data from sites around the world.
→ Rapid access to medical imaging.
→ Ability to send, receive, and store multimodal imaging data.

OVERVIEW

● Leading academic medical research institution.
● Participant of several completed and ongoing multicenter regional, national, and international studies.
● Needed a streamlined system for uploading, securely accessing, storing, anonymizing imaging data, and sharing the data with other research collaborators.

CHALLENGES

● Legacy method of storing and accessing imaging was very time intensive.
● Mailing discs from other sites was not cost effective.
● Significant administrative burden on staff.

SOLUTION

● Cloud-based research PACS with multiple modes of secure upload.
● For regional studies, imaging is shared within and across different network gateways. These gateways are easy to install, and routing rules can be customized according to the needs of the study.
● Secure and consistent viewing experience for physicians including central readers.

Key Benefits

UC Health™

NEW AUTOMATIC WORKFLOW

UC partnered with Ambra Health to electronically share imaging externally and internally. Internally, a lightweight piece of software called a gateway was installed to automatically send imaging from the clinical PACS to the research PACS.

Ambra handled everything from quickly setting up individual research folders to large multi-site research trials. The facility can now customize timepoint fields, project users and roles, case report forms, and trial workflows.

Ambra's automation provides the capability to remove patient health information (PHI) from the DICOM tags client-side before the study leaves the sending facility, eliminating the risk of accidentally leaving PHI tags in place.

Centrally managed and automated workflows enable studies to be routed to end destinations including local file directories, research repositories, and third-party viewers or post-processing systems. Incoming studies from outside sites are routed through configurable workflows with automated sharing to organizations, locations, groups, and users like QA personnel and investigators. Each project may have their own customizable electronic case report form (eCRF) that allowed the gathering of radiological data that can be later exported and linked to their associated clinical data.

SUCCESS ACROSS TRIALS

Assessing Population-based Radiological Brain Health in Stroke Epidemiology (APRISE) Study: This NIH funded population based study is focused on stroke recurrence in the greater Cincinnati area and utilizing imaging variables in addition to clinical and demographic data to build prediction models of recurrent stroke. This is a large study with multiple clinical imaging studies that are being gathered from various facilities. Today, 5 gateways have been set up to automate sending of patient imaging from facilities in the area that are participating in this study.

OVERCOMING UNIQUE ANONYMIZATION CHALLENGES

One of the key challenges for APRISE during the deployment was conserving subject IDs of approximately 4000 patients from the parent study that has been going on for many decades. The parent study had all the clinical data that needed to be lined up with the imaging data from the study that was setup using Ambra. Ambra needed to create a custom workflow to conserve imaging IDs from the parent study, anonymize all the imaging data (CT, MR, CTA, MRA) coming in from numerous regional hospitals, collect all the radiological data generated by the radiologists from viewing the images, and export radiological data in a way that would allow lining up with the clinical data as specified by the statisticians of the parent study. Ambra was able to successfully configure a workflow that allowed seamless integration from multiple sites and made the imaging available for central interpretation.

> " *Ambra's engineering team was able to setup an infrastructure and customize a workflow that met all the needs of a very complicated study."*
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