



Your Imaging Data, *De-Identified and Research Ready*

Research Assistant is an automated, on-premise toolkit for PHI removal that preserves longitudinal accuracy for research and machine learning.

• On-Premise Security

• HIPAA Safe Harbor

• Longitudinal Accuracy

• Fully Automated

As a vital component of a health system's enterprise imaging strategy, Research Assistant bridges the gap between clinical care and research innovation.

It's an automated imaging data de-identification toolkit that supports research, machine learning, and community health initiatives through the automated retrieval of imaging studies and reports, the removal of PHI, and the secure delivery of results to a secure storage location of your choice.

The Intellect Advantage

PRIVACY FIRST

Adheres to the HIPAA Safe Harbor method of de-identification by leveraging NEMA profiles to sanitize DICOM metadata and NLP to identify and mask PHI within radiology reports.

ON-PREMISE SECURITY

De-identification can occur exclusively on your institution's network; your imaging data is never stored outside of your environment.

LONGITUDINAL ACCURACY

Uses a robust date-shifting methodology that allows for accurate longitudinal analysis without exposing original dates.

TOTAL CONTROL

Health systems maintain full control over which DICOM tags are sanitized.

Turnkey De-Identification Logic

De-identification is only as reliable as the logic behind it. Research Assistant's turnkey solution applies standardized, auditable controls automatically, and without manual intervention.

- **Re-Identification Safety Valve:** An audit database is stored within your institution's server to record every processed study, allowing for re-identification if incidental findings impact patient care.
- **Age Handling:** To comply with HIPAA, ages over 89 are automatically aggregated, or the year is set to "89 years ago."
- **Geographic Sanitization:** ZIP codes are masked to 000 if the geographic unit contains 20,000 or fewer people.
- **Hashing:** Patient IDs and names are processed through PBKDF2 (password hashing) with SHA-512 for 10,000 iterations to produce unique 32-bit hex characters.

Two Solutions for De-Identification

Research Assistant offers two distinct pathways to meet varying research needs:

Turnkey Solution

Methodology: Highly automated, standardized Medicom proprietary algorithms.

Compliance: Follows HIPAA Safe Harbor and NEMA guidelines.

Date Shifting: Random shift (-1 to -365 days) consistent across a patient's studies.

Technical Process: Hashing (PBKDF2/SHA-512) for IDs and names into 32-bit hex characters.

Customized Solution

Methodology: Flexible methodology for investigator-determined values.

Compliance: Users specify custom values and accept liability for Safe Harbor alignment.

Date Shifting: Users specify a specific number of days to subtract from original study dates.

Technical Process: Allows custom IDs (e.g., predefined pseudo-identifiers) in the metadata.

Advanced Feature: Pixel Scrubbing

Pixel scrubbing is the process of removing PHI that's burned-in to the image pixels themselves, such as those found in ultrasounds.

- **How it works:** Users define blackout zones for images based on modality.
- **Efficiency:** Once defined, these rules are saved to a profile and can be automatically applied to any image matching that profile.
- **Secure Transfer:** Studies are scanned and scrubbed through Medicom's secure cloud environments (Google Cloud Healthcare API) and immediately returned to the institution's specified output folder.

Research Assistant in Action: Who We Serve & How We Help

Research Assistant is designed for academic medical centers and large healthcare organizations with significant internal research needs.



Internal Research Informatics

Replaces manual or homegrown de-identification solutions that fail to scale.



Data Consortiums

Allows organizations to participate in research networks by safely uploading de-identified data for study.



Clinical Trials

Facilitates data sharing for clinical trials while adhering to internal IRB and HIPAA de-identification requirements.



Data Monetization

Empowers information services departments to generate revenue by supporting a data monetization strategy.