mosaic CLINICAL TECHNOLOGIES | Cognita

RESEARCH PAPER SERIES
CT X-RAY

# Results at a Glance

Highlights from two companion research papers on investigational vision-language models (VLMs) for CT and X-ray report drafting: a retrospective study of 237,905 exams across 50 conditions, plus real-world efficiency data from the Radiology Partners Clinical Services practice.

**237,905**
exams in retrospective performance testing

**50**
conditions evaluated, each with additional expert-confirmed findings

**~40%**
average relative enhanced detection rate (rEDR)†

**109.6%**
highest rEDR (diffuse edema/ischemia, Head CT)

## CT

71,707 exams · 35 conditions · 4 models

**40.9%**
average CT rEDR (range 5.2–109.6%)

**27%+**
volume-weighted efficiency gain

**Highest rEDR by model:** Head CT 109.6%, Cervical Spine CT 106.4%, Abdomen and Pelvis CT 68.1%, Chest CT 44.8%

**Drafts rated "good":** 71.9–87.3% VLM vs. 51.9–83.8% radiologist

**Clinically significant errors:** 0.7% VLM vs. 2.1% radiologist (Head CT)

## X-RAY

166,198 exams · 15 conditions · 2 models

**43.4%**
average Chest X-ray rEDR (range 12.7–57.5%)

**31%**
volume-weighted efficiency gain

**Musculoskeletal and Abdomen X-ray:** 23.9% average rEDR (range 6.8–45.8%)

**Error-free Chest X-ray drafts:** 91.2% VLM vs. 83.0% radiologist

**Clinically significant errors:** 3.7% VLM vs. 6.5% radiologist (Musculoskeletal and Abdomen X-ray)

**Nearly 8M**
exams drafted through Oct. 22, 2026

**37,000+**
exams drafted per day, 30-day average

**Scan for both research papers**
mosaicclinical.ai/rsna-event-hub

## HOW THE STUDY WORKED

### 1 · Retrospective comparison
VLM output compared with original reports on exams read before AI drafting.

### 2 · Blinded expert review
U.S. board-certified radiologists reviewed a random subset, blinded to each finding's source.

### 3 · Real-world measurement
Radiologists with 50+ drafted exams compared with their own pre-drafting baseline.

†rEDR: additional expert-confirmed VLM findings divided by true positive findings in the original radiologist reports, averaged across all 50 conditions. Full results are in the companion CT and X-ray research papers.

**CAUTION: Investigational device. Not for sale in the United States.**